

## Society News

XXXIII Annual Meeting  
Indian Society of Aerospace Medicine

### PRESIDENTIAL ADDRESS

**AIR MARSHAL PM SUNDARAM AVSM PHS**  
Director General of Medical Services (Air)  
President, Indian Society of Aerospace Medicine

It is my privilege this morning as President of the Indian Society of Aerospace Medicine to welcome you to this 33rd Annual Meeting of ours. I am particularly grateful to the Air Chief, Air Chief Marshal Suri who has consented to be with us this morning to inaugurate this meeting in spite of his very busy schedule. In fact, for those who do not know, he has just come directly after visiting one of our operational Commands. This is indicative of the interest he takes in the affairs of the Society of which he is the Chief Patron, and the encouragement he gives to us, the medical fraternity. This Society was formed way back in 1952 as the Aeromedical Society of India by a small group of dedicated doctors and scientists who foresaw that with the expansion of the Air Force, and the surge in civil aviation activities in the country, there would be aeromedical problems. Over the years, this Society has grown and today we have over 800 active members from various disciplines. The main object of the Society is obviously to fit the man into the machine; to see that he operates in a safe environment and accomplishes his mission. Well, with the advent of space programmes, the members of the Society got involved in the early eighties with our first manned programme in collaboration with the Soviets. Members of the Society contributed to the extent of selecting the cosmonauts, planning the biomedical experiments in space and with this role being enlarged, the Society was renamed as the Indian Society of Aerospace Medicine in 1988, the only one of its kind in this part of the world. Well, this discipline of Aviation Medicine obviously draws to its fold experts from different fields, engineers, scientists, doctors, physiologists who are all interested in safe flying. It has become more of a problem because since the beginning of Aviation, early in the century, aeronautical industry has made very rapid progress and the capabilities of aircraft have far outstripped the physiological limitations of man which have remained the same. It is the role of the Aviation Medicine Specialists to see that this mis-match between the capabilities of man and the machine do not result obviously in a disaster. Not only that, more positively, to see that the pilot accomplishes

his mission in a safe environment. It is under the umbrella of the Society that we have, as we can see from the audience, the HAL to whom the Aeromedical Specialists provide valuable anthropometric data: various arm reaches, all human engineering considerations in the design of the cockpit. We have the ADA here, we have the Civil Aviation, National Airport Authority of India. For Naval aviation, aeromedical cover is also provided by us. They are all here this morning, Air India, Indian Airlines doctors who are active members of this Society, taking active part in these deliberations. To all of you, gentlemen and ladies, I extend a very warm welcome.

Now amongst our audience here again, we have a large number of aircrew, both from the Air Force and Civil; some of them Commandants of flying training establishments. This is a very important facet because all of this work that we are doing is ultimately for the aircrew and they provide valuable inputs to the doctors who will ultimately carry out this research. Most, if not all, the research that is under taken in this field is carried out adjacent to where we are meeting this morning. The Institute of Aerospace Medicine is the only one of its kind in this part of the world. This Institute not only carries out research, it trains Defence Services doctors, aircrew, civilian doctors from Indian Airlines, civil aircrew from Air India. I was very happy when I visited Bombay last time, that Air India asked us for a special Capsule course. So we sort of tailormade these courses, depending on the requirements of the aircrew and the aircraft they fly.

Aviation Medicine has now come to be recognized as a distinct speciality by the National Board, by the Medical Council of India and Bangalore University. This Institute is affiliated to the Bangalore University and conducts courses leading to the MD Degree in Aviation Medicine. During the next three days, various symposia and seminars will be conducted in all these disciplines in the field of military aviation, civil aviation medicine, space medicine and also clinical aviation medicine.

The problem of G-LOC is very much of a problem in high-performance aircraft which can build up very rapid rates of G [5 to 10 G per second]. Human physiology needs a minimum of 8-10 seconds before the body compensatory mechanism comes into play to offset these effects of high G. You do not have the time in these aircraft. Yet it is role of the Aviation Medicine Specialist to train Aircrew to overcome these effects so that he is able to get the maximum out of his aircraft. In this context, we



are conducting a special high G training course at IAM which is now recognised as a very valid means of increasing G-tolerance. It may interest you to know that later in the morning, the Air Chief himself will be on a G-ride in our centrifuge. We also have a symposium on disorientation which continues to be a problem in the modern high performance aircraft. We have a symposium on space medicine as well.

We also induct civilian doctors and keep the members of the society abreast with the latest. It is in this context that we always call one of the leading luminaries in the medical profession to deliver the Subroto memorial oration. As you are all well aware, Air Marshal Subroto was the father of the Air Force and it was during his tenure that this Society was formed. This year, we have Dr Mani, an eminent Nephrologist to deliver this oration, following the Chief's address. To Dr Mani I extend a welcome. I am very glad that Mrs Suri is with us to grace the occasion this morning. She has kindly consented to inaugurate the Exhibition which will follow the oration, where the aeromedical equipment of indigenous design will be exhibited.

**INAUGURAL ADDRESS  
AIR CHIEF MARSHAL NC SURI  
PVSM, AVSM, VM, ADC**

Chief of Air Staff

I feel very deeply privileged and honoured, and my happiness actually accentuates from the fact that firstly it gives me opportunity to be able to inter-relate with the gathering, which is so august and so learned, and also the community of people who really represent a very noble profession, that is medicine. Actually I have looked at the people from this discipline with the greatest amount of respect and regard and this is one of the reasons why I jumped at the idea of accepting this invitation for this inaugural address. I personally feel that the role of the doctor is significant, and his contribution towards the society has been so significant that I feel spiritual in many ways. I also feel very happy to note the progress that has been made in medicine in general and particularly in the Armed Forces where we began with the very beginning. I am given to understand that whilst modern medicine dates back to the historical references, to 2900 B.C., which relate to the Babylonian and the Egyptian period, but medicine per se as far as India is concerned, and China has been dated back to 6000 years. And having said this I would like to mention that no matter what would be the prevalent conditions, it is only the doctor who can ensure that you are able to adjust yourself to the environment, because inception of medicine actually goes back to the advent of man, of mankind and it is because of his struggle with the

environment which is totally alien, that medicine came into being. The fact that total longevity of life is dependent on the medical care, on the medical knowledge in itself is enough testimony to prove the role of medicine in our environment. I would also like to mention that the main topic here this morning is Aviation Medicine which is a discipline which also interests us invariably, being in the community of aviators. Aviation Medicine, I am given to understand, is relatively new and the very first advent of Aviation Medicine or focus in this direction, relate to the period of 1784. Some thirty years later, I think, there were some 11 articles or something written on Aviation or environment, the humidity factor, the pressure factor, the effects, barometer pressures, temperature conditions, and I think it was restricted to an altitude of some 9000 feet or so, but what really happened thereafter was the very rapid transformation of Aviation Medicine. This is post - Wright Brothers in 1903, and some wherein 1939, came out the very first book on Aviation Medicine and this book was really what Peter Ruccers is to management or Carmode is to principles of flight. It gives you the basis on which Aviation Medicine has been built. The fact really is that whilst medicine in its general concept is a difficult discipline because it relates to man with his struggle with the environment, Aviation Medicine becomes even more complex. It really relates not only man to his environment, but also man to his machine and also man to the various stresses of the materialistic world as they exists today. Therefore, the science of Medicine when it comes to Aviation, becomes a very different ball game, and indeed something which is very intricate and complex which requires not only understanding but above all, a lot and lot of effort on the part of those who are dedicated to this discipline. It also requires compassion, understanding and building-up of confidence. In the review of accidents which is not peculiar to the Air Force, but what I am talking of this morning is what I have read in various magazines, the world over. Accidents have occurred for which there are no answers, because it is a common belief and it is understanding of each man, that no one wants to get into an aircraft and bore himself a hole which means basically kill himself. Every man who gets into that aircraft, wishes to fly in safe, come back to his mother earth, come back to his family, come back to his commitments to the service. And yet, with passage of time one sees that the adjustment of the human being to this concept remains somewhat distant. Although he believes in it, he is not able to practice it. Now, I wonder who is the man who is required to help this pilot, adjust to the additional forces to which he is subjected, to the additional stresses, to the additional aspects of hostility like the environment, and indeed his own ego, and his own immaturity of understanding the situation. Over here I feel the role



squarely, goes to the specialist of Aviation Medicine, and it is in this connection that the Indian Air Force has chosen to make all its Combat Squadrons available with the facility of an Aviation Medicine Specialist. But coming back to the subject which I have started on accidents per se the world over, I am not speaking of only the Indian Air Force. I have read of certain accidents where a man finds himself scared of night flying, but just to maintain his own position in life and in the environment in which he exists and in the community in which he exists, he carries on flying, he carries on singing to himself, he carries on talking to himself, he tries to keep boosting himself in the air by saying that he belongs to the fighter group of pilots and therefore, he isn't somebody who is going to chicken out of the situation of just bad weather in front of him, or darkness, and whilst he is doing this and singing, he finds himself colliding with mother earth, and he dies. There is another pilot who under similar conditions knows that he cannot react to emergencies, he is not confident to be able to react to an emergency that may manifest itself without any warning, and yet he goes into that aircraft. He will not share it either with his fellow brothers in the Squadron, he will not share it with his wife at home, he will not share it with his supervisors, he will not share it with his doctor, but he will get into that aircraft and find himself in pickle and when he has three seconds within which there is life and death, he jokes those three seconds away to Yama and that is the end of his life. Now I wonder, in a matured and in an educated, disciplined society, why have we come to this impasse? Is there a lack of orientation on what our role is? Is it that this materialistic world has made things commercialised discipline? Is it that ego is predominant? What then is the significance of these types of accidents which are picked up at random, only to give to you. But these are factual cases, these are not cases that are arbitrarily put across to you just to prove a point. And the reason for this is quite evident that there is a lack of community of interest, between man and man, between a pilot and a pilot, between a supervisor and a pilot, between a doctor and a pilot. There is a fear of the unknown, that a medical practitioner is there to find out what is your fault. But I thought we have left that years ago, well behind because today we in Air Force where we have found that people who have even undergone bypass surgery, have come back to aviation. And the other day I was reading that in the Royal Air Force there was a pilot who had kidney and lung transplant, and he was brought back to aviation. Therefore, in this broad spectrum of medicine, the values tend to shift from one extreme to the other: in one corner the fear and in the other is this compassion, is this understanding. Do you know that in the Vietnamese war, the maximum amount of losses to the Americans were not because they were captured as prisoners of war or

shot in battle. It was because you had this loner who went into the corner, laid out in bed and covered his life because he had no faith to hang on to, no friend to hang on to and no philosopher to hang on to.

It is in this connection, that I feel that those of you who are Aviation Medicine specialists have a role not only to play from the point of view of the professional understanding, but yours is the role where you give life, where you preserve life. I will quote Sathya Sai Baba who had mentioned that assume for a moment that it is mid-day, the sun is at its azimuth, you are in a room and therefore, you have to use the artificial lights so as to be able to see within the room, you pull the curtains and you get more light. You go out in the open, it is still mid-day, the sun still at its azimuth, You see all the light in the world.

But your problem is not seeing. Your problem is perceiving and therefore, the role of the Aviation Medicine Specialist for the combat squadrons is of perception. It is not for him to sit there and talk in terms of hyperventilation, Decompression sickness, hypoxia, anoxia etc. But his job is this understanding, this perception to see that man who gets airborne in that machine has his faculties about him. He is in a proper state of mind, and if he isn't, then he has the role of the guide and philosopher. Therefore, in sum total what I am trying to say is that this entire game of Aviation Medicine is the story of a man or an aviator to a doctor, the story of an aviator to his machine, the story of an aviator to his environment and indeed, the story of an aviator to his own self, which is ego. There is a famous saying which I take cover under most of the times and that is those who belong to the community of aviators in the present day context represent the highest technology that exists today. And we also have the misfortune belonging to a Society which is totally complex and, therefore, when you make the man-machine combination, you only compound your ignorance and this is for one reason why I have been stating to my aircrew and also to the other communities which are equally important to us in the Air Force, irrespective of the branch-structures, that any misplaced zeal or enthusiasm can only result in a disaster, and therefore, one must in all humility accept the boundaries of one's knowledge and wisdom and, I would suggest that it is third caption that is also just as relevant to you as it is to an aviator. As far I am, my own self, I look upon each one of you who represents this discipline to ensure that each pilot who gets airborne is able to do justice to the mission for which he is airborne, and the mission for which he is airborne is to come back, and not go on a run-away sortie. I have also pleasure in saying that as far as the Air Force is concerned, the Institute of Aerospace Medicine has made tremendous



strides. The doctors have shown tremendous compassion and in this regard, I would also like to compliment many who are present here, Some who have seen me from my younger days, Air Marshal Mulk Raj who is present over here, you got Air Marshal Chahal, and Air Marshal Sundaram here, lots of you who have contributed so handsomely to bring Medicine to the pitch that it is to-day. It is only one thing that I request you today; remember the role of the Aviation Medicine Specialist. It is very significant that realisation must dawn on him, and he must contribute towards the end to which I have mentioned just now. For having said this, I would once again like to thank each one of you for having given me this patient hearing, and to my seniors who are here, I wish you all the best. It is also my proud privilege today to welcome Dr Mani as the Nephrologist and I am sure in his memorial oration, a lot of significant points will come out. But what is really also important is that the seminars and symposia that follow in the days ahead may bring about a very close understanding between the role of the Aviation Medicine Specialist and the aviator. Please remember that there is no one who is better than the Aviation Medicine Specialist to nurture the pilot along the correct lines when he is in a combat Squadron. May god bless you all. Thank you very much.

#### Our Past President

Air Marshal PM Sundaram, AVSM, PHS, our former President, has retired from active service after a brilliant career spanning well over three decades. While wishing him and his family a very happy retired life, the Society looks forward to his continued guidance.

#### Promotions

We congratulate the following members on their promotions:-

- Flt Lt RS Upadhyay
- Flt Lt S Madhav
- Flt Lt A Sharma
- Flt Lt A Sinha
- Flt Lt BS Sekhon
- Flt Lt RK Choudhary
- Flt Lt D Chakravorty
- Flt Lt TK Choudhary
- Flt Lt SK Gupta

#### Retirements

Air Cmde Surjit Singh Singh, our immediate past Chief Editor, has retired from active service. We wish him and his family a very happy retired life.

Other members who have retired from active service, are as under:-

- Gp Capt RR Nabar
- Gp Capt VK Seth
- Wg Cdr JS Ahluwalia
- Wg Cdr PS Mahangar
- Wg Cdr JM Wadhawan
- Sqn Ldr TK Paliwal
- Flt Lt (Mrs) S Marwah

We wish them all the very best and hope that their active association with the society will continue.

#### Release

The following members have been released from active service:-

- Sqn Ldr (Mrs) SK Sharma
- Sqn Ldr PR Ramakrishnan

We wish them all the very best and hope that their active association with the Society will continue.

#### Executive Committee Members (1991-92)

The executive committee of the society was re-constituted during the 33rd Annual General Body Meeting held on 17 Sep 1991. The newly elected members are :

- Air Cmde Kuldip Rai
- Gp Capt SK Dham
- Wg Cdr RR Kapur
- Wg Cdr Harish Malik
- Dr Lanka Shivaji

#### Fellowship/Associate Fellowship/Members of ISAM

The following members was elected as fellows/associate fellows/members of the Indian Society of Aerospace Medicine during the meeting of Executive Committee of the Society held on 17 Sep 1991.

#### Fellowship

- Gp Capt Virinder Singh

#### Associate Fellowships

- AVM VK Singhal VSM
- Gp Capt VM Alurkar
- Gp Capt MB Dikshit
- Dr PK Mishra
- Wg Cdr Bhupinder Singh

#### Members

- Wg Cdr GC Bhattacharya (Retd)
- Surg Lt Cdr V Kamal Kumar

#### Best Scientific Papers : XXXIII Annual Meeting

The following papers were adjudged as the best in their respective categories during XXXIII Annual Meeting of the Society held at IAM on 18th-20th Sep 1991.

"Centrifuge Training for Aircrew" by Sqn Ldr R Kapur, IAM

"Augmentation of Vestibular Adaptation in Naval Divers" by Surg Cdr Vk Singh.

"Unusual Presentation of a Neurological Case" by Dr AK Mishra.

#### Society Lunch

During the XXXIII Annual Meeting of the Indian Society of Aerospace Medicine from 18-20 Sep 1991, society lunch on 18 Sep 1991 was hosted by International Airport Authority of India (IAM). The Society thanks them for their hospitality.

#### Obituary

Wg Cdr N Mohan Murali, VSM (Retd), a fellow of the Indian Society of Aerospace Medicine, expired recently. Our heartfelt condolences to the bereaved family.