

# Evaluation of Aircraft Accidents—Role of Station Medical Organisation

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## Introduction

**T**HE need of Flight Safety is supreme as it is imperative that highly sophisticated equipment and highly trained manpower be conserved to ensure high degree of operational readiness at all times. As the saying goes that one of the best methods to learn is from past experience. This is very true in the sphere of Flight Safety and an exhaustive evaluation of aircraft accident is one of the methods available at present. This will enable the operators to identify the various factors which might have played how-so-ever minimal role and initiate corrective steps in time. As long as human beings are responsible for operation of aircraft whether on the ground or in the air, human factors will continue to play a role in aircraft accidents. It must be the earnest endeavour of operators at all levels to identify these human factors. The local medical organisation can play a very important role in this area in collaboration with other functionaries in the field.

## Available Evaluatory Techniques

At present the technique employed is to evaluate the locally available evidence. This can be done in two ways :

(i) Psychological evaluation of aircrew and ground operation personnel.

(ii) Evaluation of material evidence on the ground particularly in fatal accidents.

### (i) *Psychological evaluation of aircrew and ground operation personnel*

It is common knowledge that a number of accidents in which there may be loss of life or not but

highly valuable piece of equipment is lost, are due to human failure at some point in the whole chain of operations. These human failures in most of the cases are due to various emotional factors in operation which by themselves may not be of much importance but have a cumulative effect. In all these cases it is imperative that these human failures be fully analysed to pinpoint the cause of that failure as this will provide very vital clues regarding the running of that organisation and steps required to effect the necessary corrective changes. For anybody to be able to evaluate these factors in depth it is essential that evaluator must fulfil following criteria :

(a) should be familiar with local problems of operating environment.

(b) have rapport with the various categories of personnel involved.

(c) have ability to study in depth the various underlying psychological factors and their proper analysis.

### (ii) *Evaluation of material evidence on the ground*

In an aircraft accident the local medical personnel are amongst the first to reach the site either to render medical help or to take charge of the body. The medical officer who reaches the site first, can play a very useful role in documentation and preservation of evidence. He further plays a very useful role in guiding the pathologist in postmortem examination and collection of samples for histopathological and biochemical examinations.

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The local medical officer who has a vital role to play in flight safety must be

- (a) temperamentally suited for it,
- (b) adequately trained in looking for evidence
- (c) trained in human psychology to understand the interplay of various emotional forces which may endanger flight safety, and
- (d) be an integral part of the local flight safety organisation.

#### Existing practice and problems

In the present set up, SMO of the station in addition to his other duties is also responsible to supervise the medical aspects of flight safety. He is helped in this duty by the squadron medical officer who may be anywhere from being a fresh graduate to a qualified Aviation Medicine Specialist. The shortcomings of the present system are listed below:

(a) Medical Officers are generally detailed as members of court of inquiry in fatal accidents or where there is an injury to the aircrew. In other types of accidents, medical officers are not detailed. Thus a very valuable opportunity for analysis of human factors in relation to accidents is lost.

(b) In the present set up only certain squadrons have Aviation Medicine Specialists as Squadron Medical Officers. There are a number of large operating bases without Aviation Medicine Specialists. The benefit of trained and experienced manpower should be made available to such stations.

(c) SMO of large stations are burdened with multifarious administrative and professional duties. Moreover, a psychological barrier exists between

him and other vital functionaries due to wide gap between seniority and inability to communicate with them. Thus the effectiveness of his role in prevention and evaluation of aircraft accidents gets impaired if not totally lost.

#### Suggestions for Improvement

While there have been rapid advances in the sophistication of aircraft and vast changes in the technique of aircraft accident evaluation, the local medical organisation has remained more or less static. The only change has been induction of Aviation Medicine Specialists at various levels but as explained earlier it has been very patchy. There has been no attempt to bring out any degree of integration of medical services with the other functionaries at the station level. It is imperative that to conserve trained and experienced man-power and sophisticated equipment, necessary administrative and functional changes must be initiated in the local medical organisation if it has to play a meaningful role in times to come.

It is suggested that the policy of posting of medical officers to the squadrons be reviewed in the light of the existing structure of the squadrons. The squadron medical officer has to be an effective member of the squadron.

There is a need for establishing Aviation Medicine Specialist at all flying stations. This specialist can provide aeromedical services to all at the station and be a member in the integrated complex responsible for flight safety at the station.

The role of squadron medical officer needs revaluation and redefining in the light of changed conditions.