

## *e d i t o r i a l*

### *Otology in Aerospace Medicine*

A normally functioning audiovestibular system is a prerequisite to any form of flying activity as aviation introduces factors like rapid changes of pressure, exposure to noise and frequent changes of posture.

The sense of hearing is important in flying since significant information about aircraft position and flight path can be obtained over the R/T during flight operations, and the noise generated by the boundary layer and engine can contribute to the perception of aircraft speed and angle of attack. Moreover, adequate hearing is required for interpersonal communication between crew members in a multi-crew aircraft and between aircrew of single seater aircraft during formation flying. Thus, the need to assess the degree of hearing loss due to any reason and its effect on the efficiency of the aircrew is very important to determine his employability.

The vestibular apparatus is especially adapted to sense linear and angular movements of the head. It provides essential information that allows man to orientate himself and to maintain his equilibrium when standing or moving about on the Earth's surface. In flight, however, the information provided by the vestibular apparatus is frequently erroneous because the magnitude and time course of the motions to which the pilot is exposed are atypical and fall outside the normal dynamic range of this sensory system. However, in certain circumstances, the vestibular system does provide the aircrew with correct information that can contribute to the maintenance of aircraft control.

This issue of the journal contains two articles highlighting certain otologic abnormalities

related to aerospace medicine. The article "Idiopathic sudden sensori-neural deafness in a pilot" deals with an abnormality which is not directly related to flying but assumed aeromedical significance since it occurred in an experienced aircrew. Vertigo has great aeromedical significance because it is capable of producing sudden incapacity in flight that can compromise flight safety. The article "Pressure vertigo - a case report" highlights the importance of early diagnosis and definitive treatment which enabled the flight cadet to complete his flying training successfully.

Air sickness is a major problem during flight training since vomiting interferes directly with the flight cadet's ability to control the aircraft and may require the instructor to modify or abort the sortie. Recurrence of sickness delays progress in the training sequence and, if the disability is not controlled, leads to removal of the flight cadet from the training programme. Undoubtedly, the vestibular apparatus plays a significant role in the genesis of motion sickness. Prophylactic medication can be very useful in helping the flight cadet cope with the novel motions that can cause sickness during flight training thus promoting better conditions for learning and preventing the development of conditioned motion sickness. However, anti-motion sickness drugs are not always successful in overcoming this problem as has been highlighted in a letter to the editor "Intractable cases of airsickness amongst ab initio flying cadets", written by two practising Aviation Medicine specialists from their experiences in a flying training establishment.