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GENERAL AVIATION CRASHES IN ALASKA

In 1983, with the support of the FAA and NTSB, the Epidemiology Office initiated a major investigation of general aviation crashes and injuries in Alaska. Our study is now complete.

We investigated all general aviation accidents from 1963-1981. Records were available on 3,887 general aviation accidents, 513 of them fatal that involved 11,072 individuals, including 1,366 fatalities.

Our investigation found that the most significant risk factor associated with general aviation crashes and injuries is the pilot's experience as reflected by the number of total flight hours and the number of hours in type of aircraft that crashed. Experienced pilots are at high risk of crashes and injuries when they fly new aircraft, regardless of their total number of hours of flight experience. We found pilot age to be much less important as a risk factor than hours of flight experience.

Pilot-associated cause factors were cited in 42% crashes and 41% of total aviation accidents. Pilot cause factors decreased with increasing flight hours in type for all accidents and especially for fatal accidents.

From the data available we were able to calculate crash rates by make and model of aircraft for comparative purposes. Although these data must be interpreted with caution, they provide important leads to improve aviation safety.

Profile of a High-Risk Flight

A male pilot, aged 25-39 years, who has fewer than 100 hours of flight time in type, flying a Piper PA-18, float-equipped aircraft on a hunting trip in September or October, who overloads the aircraft and crashes on take-off or during initial climb after failing to obtain adequate flying speed.

Summary and Recommendations

- Improved data collection and analyses will lead to identification of risk factors associated with general aviation crashes, injuries, and fatalities.
- Programs targeted at identified risk factors will be effective in reducing aviation crashes, injuries, and fatalities.
- Current standards for pilot training and certification are inadequate. The number of hours of flight training required for initial pilot licensure should be increased from 50 hours to 200 hours.

- Experienced licensed pilots who transfer to a new aircraft should be required to undergo training before being certified in the new aircraft.
- Efforts to improve occupant protection in light aircraft should be increased.
- Mechanical inspection and routine maintenance of all rotorcraft should be increased.
- Aircraft makes and models that have high crash rates, fatality rates, and fatal/crash rates should be placed under intense scrutiny.
- A higher proportion of crashes in Alaska occurred in flight during normal cruise and were associated with engine failure than in crashes reported in the contiguous U.S. Increased investigation is needed to determine the reason for this finding.
- Increased training for pilots flying float-equipped aircraft is needed.
- Mechanical inspections should include careful inspection of the engine exhaust systems and heaters to eliminate any hazard from carbon monoxide.
- Certain areas of Alaska appear to have a high proportion of fatal crashes. Experienced pilots and injury control specialists should investigate these areas to determine if the increased proportion of fatal crashes is related to aviation facilities, weather reporting, navigation aids, terrain, or accessibility of EMS support.
- Aircraft crashes, injuries, and fatalities are not accidents. They are not random, unpredictable events. They are preventable. Lives are being lost unnecessarily. The importance of aviation in Alaska demands increased resources and research directed to improving aviation safety.