WG 8 (Aerospace Medicine)

Asthma in Active Military Aircrew: Long-Term Health and Flight Performance

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Background:
In many air forces, individuals with asthma are ineligible for flight training. However, waivers may be granted if asthma develops during or after successful training completion. The primary concern is that asthma could impair pulmonary function and increase the risk of sudden incapacitation under extreme conditions, such as high G-forces and hypoxia.
Purpose:
This study aimed to evaluate the long-term health and flight performance of asthmatic aircrew and assess the validity of the current Israeli Air Force (IAF) asthma waiver policy.
Methods:
This retrospective cohort study analyzed medical records of active and reserve asthmatic air crew who underwent annual medical screenings at the IAF Aero Medical Center (AMC) between 2008 and 2024. Data collected included demographic characteristics, flight platform, role in the aircraft, age at onset, treatment regimen, presence of allergy, eosinophilic count and pulmonary function test (PFT) results.
Results:
A total of 30 aircrew members with asthma met the inclusion criteria, 90% of whom were male. The average age at diagnosis was 32.39±7.66 years, with a maximum follow-up period of 16 years. Nearly half (46.7%) served as high-performance air crew. Most (66.7%) were treated with inhaled bronchodilators. The average forced expiratory volume in one second to forced vital capacity (FEV1/FVC) ratio was 74.02%, with a minimum recorded value of 65%.
Conclusions:
Despite the limited sample size, findings suggest that asthmatic aircrew maintain stable pulmonary function over long-term follow-up, without reported medical or flight safety concerns. These results support the current IAF asthma waiver policy, allowing jet pilots to continue flying while on chronic inhaled bronchodilator therapy.

WG 8 (Aerospace Medicine)

Active Tuberculosis in a Combat Navigator During the Iron Swords War – an Exceptional Epidemiological Investigation

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Background:
On April 4th 2024, a reserve fighter navigator in an operational squadron was diagnosed with active tuberculosis. This led to a unique contact tracing challenge due to the need to understand the structure of the aircraft's ventilation systems and the contagion potential in it. In addition, it was also necessary to understand the bacterial survival within the F-15 aircraft's environment. 78 close contacts, all aircrew, were identified, creating a complex situation given the operational demands on the squadron.
Purpose and Goals:
The primary goal was to effectively rule out latent tuberculosis among the 78 aircrew members while minimizing disruption to their operational duties. The challenge lay in balancing thorough testing with the need to maintain a high level of operational capability within the squadron.
Methods:
The standard protocol for ruling out latent tuberculosis (two Mantoux tests and a chest X-ray) was deemed impractical due to the frequency of required medical
visits. Instead, the less common but more efficient QuantiFERON test (two blood tests a month apart) was chosen. To further streamline the process, special permission was obtained to conduct the tests at IAF Aeromedical Center and the squadron's base clinic, requiring special training for the clinic staff.
Possible Implementations:
The QuantiFERON test, though more expensive and complex, was implemented to reduce the number of medical visits required by the aircrew. Decentralizing the testing to the base clinics, rather than hospitals, further facilitated participation. Despite this accommodation, some aircrew members (9 out of 78) did not complete the full testing regimen. Ultimately, 69 aircrew members completed both tests.