

FITNESS TO FLY GUIDELINES ARE NOT SUITABLE FOR INFANTS

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Introduction: Infants at risk of hypoxia during air travel are tested prior to flying, to investigate any SpO₂ decrease when exposed to 14% O₂. New guidelines recommend that if SpO₂ falls below 90% during the hypoxia test (compared with 85%), O₂ be prescribed. We aimed to study the effects of hypoxia testing on both healthy children and those with a history of chronic lung disease (CLD).

Methods: Hypoxia testing was performed using our standard protocol of breathing 14% O₂ via a face mask for 20 minutes, while continuously measuring SpO₂. Data were analysed in terms of SpO₂ fall due to the hypoxia test, neonatal and postnatal factors.

RESULTS: Infants and children (n=79) were studied with 19 (range 9-50 months) unable to complete the test. Healthy children (n=29) were aged between 3-64 months while CLD children (n=31) had a corrected age between 4.2- 71.7 months. Baseline SpO₂ did not differ between healthy (100:95-100% (median:range)) and CLD (99:97-100%) children. SpO₂ fall was related to age (p<0.001) and was independent of disease history. Children over 2 years had <10% SpO₂ fall while children < 2 years had unpredictable responses, unrelated to age or health history. Of those children <2 years, 53% (10/19) of CLD and 42% (8/19) of healthy subjects had SpO₂ fall below 90%. In contrast, one healthy (5%) and five CLD (25%) children had SpO₂ decrease to less than 85% in response to the hypoxia test.

DISCUSSION: The clinical significance of this degree of desaturation is not known. Recent changes in the guidelines may lead to many more children failing a flight test. As 42% of healthy infants had falls in SpO₂ below the new 90% cut off, it is questionable whether these current guidelines are appropriate for children under two years of age. The data presented in this study suggests the original flight test guidelines of 85% may be more suitable in infants. Further research into the potential impact of age related flight test cut off values is required.

KEYWORDS: hypoxia test, infants, flying.

FUNDING: Princess Margaret Hospital Seeding Grant

Nomination for Bird Healthcare Young Investigator Award

