

Ethnicity Influence on Exhaled Nitric Oxide Fraction in Healthy Persons

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Although ethnic differences in pulmonary function in healthy school-aged children and adults are well recognized, but little is known about such differences in preschool children. A previous study revealed that differences in forced expiratory lung volume and exhaled nitric oxide fraction between South Asian and white children exist from a very young age. A previous study from Japan demonstrated that the reference ranges for exhaled nitric oxide fraction in healthy Japanese adults were similar to those of Caucasians. A study from Tunisia showed that Tunisian and Arab adults of any age and height, any fraction of exhaled nitric oxide value greater than 26.00 ppb should be considered abnormal. A previous study in healthy Asian children aged 5 to 18 years demonstrated that the upper limits of normal exhaled nitric oxide fraction depend on age, from 21 ppb in young children to 39 ppb in adolescents. A recent study from Tibet revealed that the upper limit of exhaled nitric oxide fraction in healthy Tibetan adults was 33 ppb. This value can be predicted on the basis of sex and altitude. Some investigators from Thailand demonstrated that the exhaled nitric oxide fraction values in healthy Thai adults were similar to those of Japanese and Caucasians.

In conclusions, ethnicity, age, total IgE, allergic sensitization, time of testing, drinking water, weight, and ambient nitric oxide are important factors for determining the reference values of exhaled nitric oxide fraction in healthy children and adults.

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