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**Title:** Fraction of exhaled nitric oxide in children aged 4 to 11 years

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**Body:** Introduction: Fraction of exhaled nitric oxide (FENO) is a useful marker of allergic airway inflammation and can measure the response to anti-inflammatory therapy. Availability of commercial portable FENO analyzers has made the measurement more wide-spread in clinical care of children. Aim: To study FENO in relation to current respiratory symptoms and medication in patients of Tartu Children's Clinic and in healthy children. Methods: We measured fraction of exhaled NO with the hand-held device (NIOX MINO; Aerocrine AB, Sweden) in 242 children aged 4-11 years. Children were classified as wheezers (wheeze during the last 12 months), coughers or healthy (groups W, C and H, resp.) according to the questionnaires about respiratory and atopic problems. 79 out of 207 symptomatic children had been treated with inhaled corticosteroids (ICS) during the last month. We defined FENO values >20 ppb as abnormal, the limit suggested for children aged 12 or less by Taylor, D.R. et al. (Thorax 2006;6:817-827). Results: Measured FENO values and the amount of abnormal values by groups are presented in Table 1. FeNO levels were significantly higher in wheezers compared to healthy children (p<0.05).

Table 1. Data by groups.

	H	C (no ICS)	C (with ICS)	W (no ICS)	W (with ICS)
Number (F/M)	35 (22/13)	61 (23/38)	24 (8/16)	67 (22/45)	55 (21/34)
Mean FENO (ppb)	10.6	12.4	9.8	21.7	19.2
FENO range (ppb)	2.5-23	2.5-76	2.5-26	2.5-146	2.5-90
Abnormal FENO (%)	5.7	18.0	8.3	32.8	27.3

**Conclusions:** Measurement of FENO by a portable device is feasible for children over 4 years, and can provide an objective measure of airway inflammation for monitoring of asthma in Tartu Children's Clinic.