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**Title:** Exhaled breath condensate pH identifies children with preschool asthma

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**Body:** Wheezing is common in early childhood. However, in some children, recurrent wheezing is the first symptom of asthma. The aim of our study was to investigate whether exhaled breath condensate pH (EBC pH) might help to identify children with increased risk for asthma. EBC pH was measured from 191 children (median age 52,8 months; interquartil range, 26,4 months), 173 in the asymptomatic interval. The sample was divided into 5 groups: group 1 (n = 34) recurrent wheezy bronchitis with, group 2 (n = 64) without allergic sensitization, group 3 acute wheezy bronchitis (n = 18), group 4 allergic rhinoconjunctivitis without recurrent wheezy bronchitis (n = 15) and group 5 healthy control subjects (n = 60). The family history of atopic disease or asthma was documented for group 1 and 2 to generate the Asthma Predictive Index score. Nonparametric tests and receiver operating characteristic analysis were used for statistical evaluation. A follow-up investigation after 4 years with 114 subjects included bodyplethysmography, allergy-test and EBC pH measurement. EBC pH was significantly lower in group 1 and 3 compared to group 2, 4 and 5 (group 1: median pH 7.49 [interquartile range, 0.94], group 3: 7.44 [0.70] vs. group 2: 7.93 [0.23], group 4: 8.02 [0.17] and group 5: 7.96 [0.25], respectively; P < .001). In combination of EBC pH and Asthma Predictive Index score an area under the curve of 0,94 could be seen for group 1 and 2. In the follow-up investigation asthma was detected in 96,7% of the subjects of group 1 but only in 10,5% of group 2. EBC pH as a noninvasive and easy-to-measure parameter might help to identify preschool children at risk of asthma.