



Effect of long-acting β -agonist on bronchodilator response in children with asthma

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If long-acting beta-2-agonists are not withheld before pulmonary function tests in children with asthma, their effect on baseline function will be evaluated, but significant FEV₁ reversibility could still occur <https://bit.ly/2zGn8PG>

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To the Editor:

Spirometry is the most common pulmonary function test (PFT) used to follow asthma patients. It is recommended to withhold short-acting β 2-agonists (SABA) a few hours before pulmonary function testing and to withhold long-acting β 2-agonists (LABA) for diagnosis purpose but not for the assessment of response to a current treatment [1]. In children with asthma, the addition of LABA to inhaled corticosteroids (ICS) has no clear clinical benefit, but it has proved to improve baseline forced expiratory volume in 1 s (FEV₁) [2]. The maximal increase in FEV₁ after a single dose of formoterol was measured 3 h after administration, but the remaining effect after 12 h would depend on the inhaled dose [3]. Finally, 25 or 50 μ g of salmeterol inhaled at 22:00 h resulted in higher baseline pulmonary function and decrease in exercise-induced bronchoconstriction 10 and 12 h later [4]. In routine practice, children are tested with various delays since the last LABA inhalation, but LABA is usually inhaled on the morning of the test (<12 h before), in the evening the previous day (12–24 h) or on the morning the previous day or before (>24 h). It is thought that children with the most recent inhalation should have the best pulmonary function and the lowest reversibility, but the latter has not been studied.