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Asthma control – components and clinical importance

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The 2006 GINA report recommends *control driven treatment* of asthma in children. This raises the question of how to define good asthma control. A pragmatic and short definition of asthma control could be: Resolution of symptoms and elimination of disease variability. This sounds easy to assess, but several studies have found that accurate assessment of asthma control is difficult in clinical practice. Physicians often over-estimate the level of asthma control and patients often under-report symptoms and the impact the asthma has on their daily life. A main reason for this is that accurate assessment of symptom resolution and disease variability requires assessment of a variety of outcomes such as *day and night symptoms, need for rescue medication, impairment of daily activities* such as school, work and participation in physical activities, *frequency of exacerbations and measurement of the variability of lung function with time,* either spontaneously or in association with a $beta_2$ agonist or a provocation test such as a standardized exercise challenge. Assessment of all these outcomes in a child is complex due to communication problems with the child and the family and an unconscious adjustment of the daily lifestyle.

To facilitate this accurate assessments of asthma control a variety of validated, easy to use instruments have been developed. These include the Asthma Control Test (ACT) (http://www.asthmacontrol.com), the Childhood Asthma Control Test, the Asthma Control Questionnaire (ACQ) (http://www.qoltech.co.uk/acq.html), the Asthma Therapy Assessment Questionnaire (ATAQ) (http://www.ATAQInstrument.com), and the Asthma Control Scoring System and the Asthma Quality of Life Questionnaire. Most of these have been developed for and validated in adults, but some also exist in a version validated for paediatric use in school children. Their value in clinical practice, which may be quite different from the research setting in which they have been validated, requires further evaluation.

The value and shortcomings of the various measurements and tools normally used to assess asthma control in children is discussed and the importance of using combinations of several outcomes and validated, easy to use instruments is emphasised. Due to communication problems with children and their families some objective measures should always be included in the assessment of control.

A combination of the 1) Childhood Asthma Control Test, 2) three weeks of diary recordings of symptoms, rescue beta2 use and morning and evening peak expiratory flow rate and 3) a standardized exercise challenge test will detect more that 95% of uncontrolled asthma in a population seen in primary care.

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