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What is the place of knemometry in development of new inhaled Corticosteroids

Ole D. Wolthers

Aarhus University, Denmark

Development of new inhaled corticosteroids with an improved ratio between efficacy and systemic activity for treatment of asthma is needed. Especially, growth suppression is an unwanted adverse effect in children. When validated recommendations for standardisation and measurement procedures are used short term assessment of lower leg growth by *knemometry* is a highly accurate and reproducible method for assessment of systemic activity of inhaled corticosteroids in children. In populations of children short term knemometry is to be capable of defining specific corticosteroids, application devices and doses that do not suppress long term height growth. If the short term lower leg growth suppression in populations of children is higher than approximately 25% the risk of intermediate term growth suppression becomes significant with a mean height growth rate retardation in the range of approximately 1 cm during the first year of treatment which may be associated with a reduction in final height of the same magnitude. Short term knemometry should be performed as an integral part of the safety assessments of new inhaled corticosteroids and inhalation devices in children with asthma before intermediate term or long term height growth evaluations are initiated.