

## Reference Ranges for Interrupter Resistance Technique: The Asthma UK Initiative

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### Introduction:

Interrupter resistance (Rint) is an easy non invasive technique used to measure respiratory resistance in preschool children and those who are unable to produce spirometry because of disabilities. Several studies have described reference equations for Rint using similar methodologies. We aimed at collating Rint values from healthy children to produce more robust reference equations, and to examine the influence of methodological differences on Rint ([www.growinglungs.org.uk](http://www.growinglungs.org.uk)).

**Methods:** We identified all potential collaborating centres with Rint data in healthy children <10 years of age; 8 centres were identified. Sex and height specific reference equations were developed for expiratory Rint using the LMS method (Cole and Green 1992). Site visits were conducted and between-centre differences in equipment, methodology and data quality examined.

**Results:** Six centres contributed 1117 measurements in children aged 2-13 years, which were used to develop the sex-specific reference equations. An inverse relationship with height was modelled for expiratory Rint and there were minimal differences between centres.

**Conclusion:** The Asthma UK growth charts for Rint maximise use of available reference data to produce generalisable and reliable reference ranges for young children.

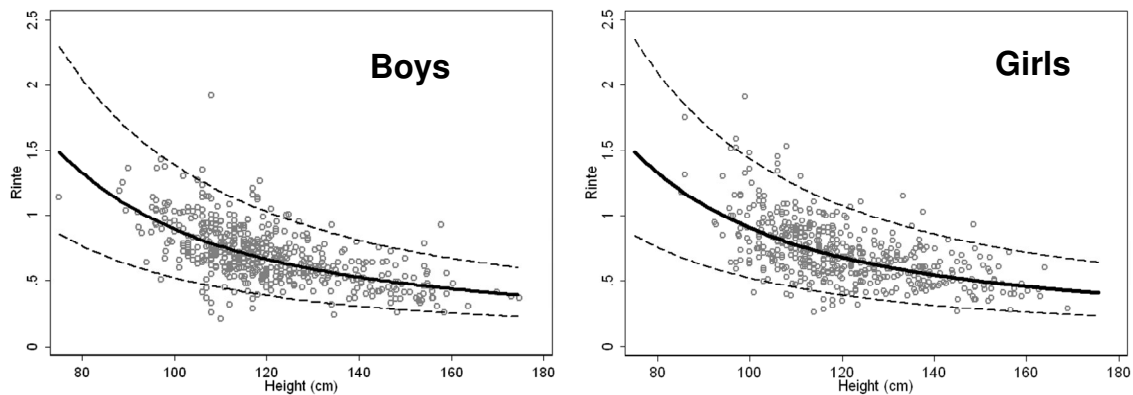


Figure. Median predicted Rint (solid line) and 95% prediction limits (dash) for children aged 2-13 years.