

# Reference Values of Chest Expansion amongst Healthy Children: A Cross Sectional Study

Pranjali Phulgirkar\*, Dr. Prajakta Sahasrabudhe

College of Physiotherapy, 11/12, Thube Park, Shivajinagar, Pune- 411005

\*Corresponding author

## ABSTRACT

**Introduction:** Examination of the chest wall movement during breathing gives a valuable insight into functioning of respiratory system of an individual. Thoracic mobility and lung function may be altered due to growth, body composition, and respiratory illnesses. Preliminary baseline for the chest expansion measurements have been obtained for healthy adult Indian population, but as the rib configuration of children is different from the adult reference values in children need to be established.

**Aim:** To find out the reference values of chest expansion in healthy children.

**Method:** In the present study, chest expansion was measured at three levels (R2, R4 and Xiphisternum) for 720 children among the age group of 5-12 years using a flexible cloth tape. Difference between chest circumference at maximal exhalation and maximum inspiration was recorded as chest expansion value.

**Conclusion:** The reference values for chest expansion among healthy children in the age groups of 5-12 years are 3.2cm, 3.8cm and 4.2cm at rib 2, rib 4 and xiphisternum respectively, which can be used as a point of reference while performing respiratory system assessment.

**Keywords:** Chest expansion, Children, Reference values

