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| **Respiratory Rate - Child** |
| **Protocol Id:** | 91402 |
| **Description of Protocol** | A study staff member counts the number of complete respiratory cycles (one inspiration and one expiration) a subject 4 to 16 years of age breathes in 60 seconds. |
| **Specific Instructions** | The protocol for children should be administered in a quiet place where the child can remain calm. The observer or listener should reliably count or listen to the child’s respiratory cycles for up to 60 seconds and observe the child’s respiratory pattern. |
| **Protocol:** | 1) Use a watch which can measure time in seconds.2) Child (4-16 years of age) should be seated, may be awake or asleep but should be calm, not agitated; observe a complete respiratory cycle and count partial respiratory cycles as complete.4) Count the number of respirations for 60 seconds or in two separate blocks of 30 seconds each.5) While counting, note the child’s respiratory depth, breathing pattern, and depth of breathing.6) Record the results.Number of respiratory cycles in one minute:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Respiratory depth comments:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Breathing pattern comments:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Breathing depth comments:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Selection Rationale** | The child protocol was used in a study of 1,109 healthy children ages 4 to 16 years to establish age-related references for respiratory rate. |
| **Source** | Wallis, L. A., Healy, M., Undy, M. B., & Maconochie, I. (2005). Age related reference ranges for respiration rate and heart rate from 4 to 16 years. Archives of Disease in Childhood, 90, 1117-1121. |
| **Language** | English |
| **Participant** | Children ages 4 to 16 years |
| **Personnel and Training Required** | Staff trained to count respiratory rates with a watch, and auscultate breath sounds |
| **Equipment Needs** | Watch that can measure time in seconds and a stethoscope |
| **Standards:** |

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| **Standard** | **Name** | **ID** | **Source** |
| Common Data Element (CDE) | Person Respiratory Rate Text | 2970219 | [CDE Browser](https://cdebrowser.nci.nih.gov/CDEBrowser/search?elementDetails=9&FirstTimer=0&PageId=ElementDetailsGroup&publicId=2970219&version=1.0) |
| Logical Observation Identifiers Names and Codes (LOINC) | Resp rate child proto | 62633-3 | [LOINC](http://s.details.loinc.org/LOINC/62633-3.html?sections=Web) |

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| **General references** | Evans-Smith P. (2005). Taylor’s Clinical Nursing Skills: A Nursing Process Approach. Philadelphia, PA: Lippincott Williams & Wilkins.Fleming, S., Thompson, M., Stevens, R., Heneghan, C., Pluddemann, A., Maconochie, I., Tarassenko, L., & Mant, D. (2011). Normal ranges of heart rate and respiratory rate in children from birth to 18 years of age: A systematic review of observational studies. *Lancet, 377,* 1011-1018.Taylor, C. Lillis, C, LeMone, P. & Le Bon, M (2005). Skill Checklists to Accompany Fundamentals of Nursing: The Art and Science of Nursing Care (5th Ed). Philadelphia, PA: Lippincott Williams & Wilkins. |
| **Protocol Type** | Physical Measurement |
| **Derived Variables** | None |
| **Requirements** |

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| **Requirement Category** | **Required** |
| Major equipmentThis measure requires a specialized measurement device that may not be readily available in every setting where genome wide association studies are being conducted. Examples of specialized equipment are DEXA, Echocardiography, and Spirometry | No |
| Specialized trainingThis measure requires staff training in the protocol methodology and/or in the conduct of the data analysis. | No |
| Specialized requirements for biospecimen collectionThis protocol requires that blood, urine, etc. be collected from the study participants. | No |
| Average time of greater than 15 minutes in an unaffected individualAverage time of greater than 15 minutes in an unaffected individual | No |

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| **Process and Review:** | [Expert Review Panel #6](http://phenx.org/node/118) (ERP 6) reviewed the measures in the Respiratory domain. Guidance from ERP 6 includes the following:• Re-ordered list of activities in protocol.Back-compatible: no changes to Data Dictionary Previous version in Toolkit archive ([link](https://www.phenxtoolkit.org/index.php?pageLink=browse.archive.protocols&id=90000)) |