



Data Collection Worksheet

Please Note: The Data Collection Worksheet (DCW) is a tool to aid integration of a PhenX protocol into a study. The PhenX DCW is not designed to be a data collection instrument. Investigators will need to decide the best way to collect data for the PhenX protocol in their study. Variables captured in the DCW, along with variable names and unique PhenX variable identifiers, are included in the PhenX Data Dictionary (DD) files.

The following description summarizes some of the key points. For the full protocol, see Beydon et al., 2007 and Miller et al., 2005.

Equipment

Spirometers usually come with computer software. The spirometer must be connected to a computer during the spirometry tests. Provide the child with his/her own mouthpiece and nose clip. Allow the child to put the mouthpiece in the mouth and blow with the nose clip on the nose. Record whether or not a nose clip was used.

Demonstration

Provide a brief explanation of the spirometry test. Do multiple demonstrations of the spirometry test for the child. Encourage the child to inspire fully into the spirometer and blow fast. Ideally this demonstration and the spirometry tests are performed with visual cues via animation software. Instructions may need to be tailored to the child.

Setting

The child may be standing up or sitting in a chair. The position should be noted.

Successful maneuvers

After the child blows into the spirometer, the technician determines if the attempt was a successful “maneuver.” The child should have at least two to three successful and reproducible maneuvers, which may take up to 15 attempts.

Recommended end of test criteria:

- 1) The subject cannot or should not continue further exhalation.
- 2) The volume-time curve shows no change in volume (<0.025 L) for 31 s, and the subject has tried to exhale for 33 s in children aged <10 yrs and for 36 s in subjects

aged >10 yrs.

Recorded results

(Some children will not be able to expire for a full second.)

- Forced Vital Capacity (FVC)
- Forced Expiratory Volume in .5 seconds (FEV_{.5})
- Forced Expiratory Volume in .75 seconds (FEV_{.75})
- Forced Expiratory Volume in 1 second (FEV₁)
- Repeatability of parameters above
- Number of satisfactory attempts (maneuvers)
- Posture
- Nose clips

Variability of results

A child's spirometry results may not be as repeatable as an adult's results. Repeatable results should be recorded.

Protocol source: <https://www.phenxtoolkit.org/protocols/view/91602>