



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 Miller et al., 2005.

Equipment

Spirometers usually come with computer software. The spirometer must be connected to a computer during the spirometry tests. Provide subjects with a mouthpiece and a noseclip. Use of a noseclip is highly recommended but not mandatory. Allow subjects to put the mouthpiece in their mouth and blow with the noseclip attached to their nose. Record whether the noseclip was used.

Quality control

To calibrate the spirometer, attach the device to a 3 liter syringe. Attach the spirometer to a computer and open the spirometry software to calibrate the spirometer. This calibration will measure the flow rate of the spirometer. Conduct three tests with the syringe and ensure that each result is $\pm 3\%$ of the other tests. This is called a calibration check. Similarly, the syringe must also be calibrated; generally, the syringe flow rate results should be $\pm 0.5\%$ of the other tests. Perform quality control tests on a weekly basis (see the manufacturer recommendations) and record the results in a log.

Demonstration

Provide a brief explanation of the spirometry test. Do multiple demonstrations of the spirometry test for each subject. Allow subjects to do practice attempts by putting their mouths on the spirometer, inhaling fully, and exhaling as forcefully as possible until no more air can be expelled. It may be useful to refer to the exhalation as a “blast” to ensure subjects exhale as forcefully as possible.

Setting

The subject should be sitting in a chair. Record the position (sitting or standing).

Successful maneuvers

After the subject blows into the spirometer, the technician determines whether the attempt was a successful “maneuver.” An adequate spirometry test requires a minimum of three acceptable maneuvers (see the full protocol for more details about successful maneuvers).

Recorded results

Record the following results.

- Forced Vital Capacity (FVC)
- Forced Expiratory Volume in 0.5 seconds (FEV_{.5})
- Forced Expiratory Volume in 0.75 seconds (FEV_{.75})
- Forced Expiratory Volume in 1 second (FEV₁)
- Repeatability of parameters above (see repeatability maneuver criteria in full protocol)
- Number of satisfactory attempts (maneuvers)
- Posture (sitting/standing)

Nose clips (yes/no)

Protocol source: <https://www.phenxtoolkit.org/protocols/view/91601>