IQmark Digital Spirometer
## Quick Reference User's Guide – Performing a FVC Test

1) Start the **Diagnostic Workstation** program - double click on the IQmark Workstation icon.

2) Select the patient. For an existing patient, click on Patient List and double click on the appropriate patient name. For a new patient, click on New Patient and enter the appropriate information.

3) Check the patient data fields on the screen and make sure that the Race, Age, Sex, and Height (R.A.S.H.) have been entered for each patient (required information to obtain predicted values and interpretations).

4) Instruct the patient to select a new disposable mouthpiece, open it and insert it into the Spirometry handle. *(For handles with serial numbers that start with 51, this will turn the handle ON.)*

5) Click on New Test, select Spirometry, enter testing information, and click on OK to enter the test screen. Check the LED on the backside of the Spirometry handle to assure it is green. If it is red, replace the batteries.

6) Prepare the patient for the Spirometry test. Remember, this is a patient effort dependent test. First explain the procedure to the patient, and then demonstrate the procedure to the patient.
   a) Instruct the patient to place the mouthpiece on top of their tongue, with their teeth and lips around the mouthpiece. Seal the outer part of the mouthpiece with their lips. Let the patient get used to the feeling of breathing with the mouthpiece in their mouth to realize there is no resistance.
   b) When the patient is ready, instruct the patient to hold the handle close to their cheek, not in front of their mouth. Be sure that the patient is not breathing through the mouthpiece when you start the test.

7) Click on Start New Test - wait for the zeroing process – DO NOT ALLOW AIRFLOW TO PASS THROUGH THE MOUTHPIECE DURING THIS PROCESS. Wait for the Spirometry incentive display.

8) When "Start When Ready" appears, instruct the patient to take a full inspiration and to then place the mouthpiece in their mouth. Instruct the patient to *Blast* out the air; try to achieve 80% in the first second. Encourage the patient with verbal and body language to blast out fast and blast out long (try for 6 seconds). Coach them to *Squeeze* out the air until "Inhale Now" appears or a volume-time curve plateau is achieved.

9) If a flow volume loop is required, the patient must keep the mouthpiece in their mouth, and inhale deeply at the end of the expiration. Click the Stop button or press the ENTER key to conclude the test. Accept or Reject the test based on the patient's effort. Click on Yes to start another test, No to stop. Repeat steps 8 and 9 until the appropriate number of tests has been performed. Performing more than 8 FVC tests in one sitting will usually return diminished results.   Try to obtain 3 accepted tests for the patient.

10) Click the Save Review button to save the test session and display the review screen. Use the review screen to review, edit the interpretation, print the results, and/or to initiate a Post-BD test.

11) Instruct the patient to remove and discard the used mouthpiece after all tests are completed. *(For handles with serial numbers that start with 51, this will turn the handle OFF and save battery life.)*

NOTE: The ATS recommends daily calibration with a 3-Liter syringe

3300 Fujita Street, Torrance, CA 90505 ● 310-530-5955 ● 800-624-8950 ● Fax 310-530-1421
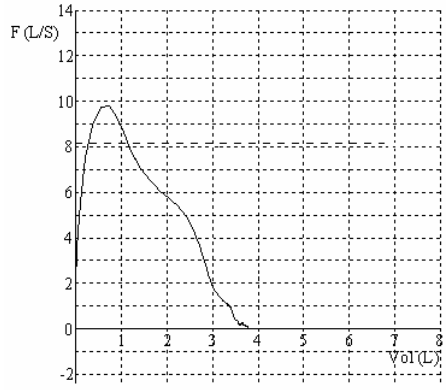
(See other side for Flow Volume curve examples and Trouble Shooting suggestions)

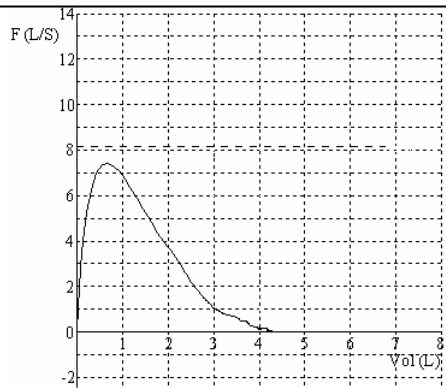# Examples of Normal, Restrictive and Obstructive Flow-Volume curves
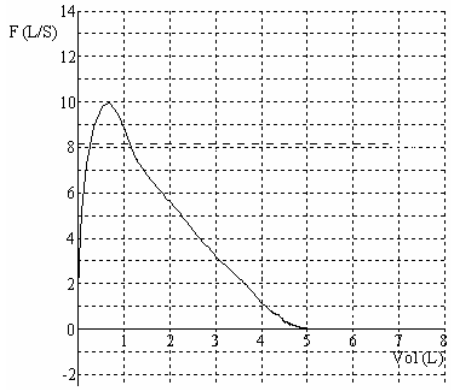
Normal

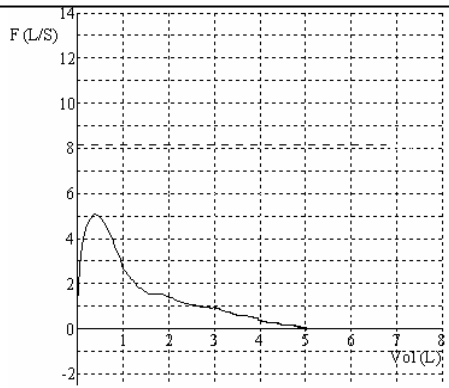Normal FEV_1
Normal PEF
Normal FVC
Normal FEV_1 / FVC % (~ 75%)

Restriction

Normal FEV_1
Normal PEF
Low FVC
High FEV_1 / FVC % (> 80%)

Borderline to Moderate Obstruction

Low FEV_1
Low PEF
Normal FVC
Low FEV_1 / FVC % (< 70%)

Severe Obstruction

Low FEV_1
Low PEF
Normal FVC
Low FEV_1 / FVC % (< 50%)

Troubleshooting:

Message:	Sensor Not Responding.	Action:	Check batteries* for correct orientation.
			Check cable connection to computer.
			Select Setup and press Auto-Detect.
			Insert mouthpiece for 51 serial # handles.
Message:	Predicted FEV_1/FVC is not available or valid.	Action:	Check patient demographics. Race, Age, Sex and Height must be entered.

* USB Spirometers (52 serial number handles) do NOT require batteries – Battery door is sealed shut.
* To Replace Batteries on RS232 (DB9) serial cable handles:

Using your thumb, slide the battery door from the center to the edge. Allow the door to pop open.