SPIROPERFECT
SPIROMETRY
QUICK START GUIDE

WelchAllyn®

Advancing Frontline Care™

SPIROPERFECT
PATIENT INFORMATION

What is spirometry?

Spirometry is the most basic and frequently performed test of pulmonary (lung) function. A device called a spirometer is used to measure how much air the lungs can hold and how well the respiratory system is able to move air into and out of the lungs. Because spirometry is based on a maximal forced exhalation, the accuracy of its results are highly dependent on your understanding, cooperation, and best efforts; therefore good coaching is essential.

Spirometry differs from peak flow readings in that spirometry records the entire forced breathing capacity against time, and peak flow records the largest breathing flow that can be sustained for 10 milliseconds. Both are often used in asthma care.

Why would I need a spirometry test?

This test is used to determine the cause of shortness of breath, to rule out any kind of obstructive disease that blocks breathing, or restrictive disease that limits the expansion and capacity of the lungs. Spirometry is most often used to diagnose and monitor lung problems, such as chronic bronchitis, emphysema, pulmonary fibrosis, chronic obstructive pulmonary disease (COPD), or asthma.

Spirometry is also used to monitor how well medications for respiratory problems are working and to evaluate breathing capability prior to surgery.

How is spirometry performed?

A spirometry test is done with a spirometer, which consists of a mouthpiece and disposable tubing connected to a machine that records the results and displays them on a graph. To perform spirometry, you must breathe through a flow transducer while performing certain breathing maneuvers like deep inhalation or forceful exhalation. Some of the test measurements are obtained by normal breathing, and other tests require rapid and forceful inhalation and/or exhalation. The volume of air inhaled or exhaled, and the length of time each breath takes are recorded and analyzed.

Nose clips are usually used to make sure air is only coming out of the mouth. Sometimes a test will be repeated to get the best and maximum effort. Often, the tests are repeated after a person takes a medication that opens the airways of the lungs (a bronchodilator). A spirometry test can take anywhere from 5 minutes to a half an hour, depending on the different types of breathing tests being performed.

Are there risks associated with spirometry?

The risks are minimal for most people. Because the test involves forced and rapid breathing, some people may experience temporary shortness of breath. Spirometry should not be done if a person suffers from chest pains, has had a recent heart attack, or has serious heart disease. There is a small risk of a collapsed lung in people with a certain type of lung disease.

How should I prepare for spirometry?

Do not eat a heavy meal before spirometry testing. Refrain from smoking for 4 to 6 hours before the test. Empty your bladder right before testing.

Specific instructions will be given if medications such as bronchodilators or inhalers need to be withheld before the test. Sometimes, medication may be inhaled prior to the test, to test how well an individual responds to medication.

1 Install Software and USB Drivers

- This quick start guide is intended for use with CardioPerfect Workstation Version 1.6.0 or higher.
- For complete directions for use and warnings, please consult your user manual located on the SW CD.

2 Connect USB Dongle to CPU

- Use the USB extension cable supplied with the sensor to lessen chance of USB connector damage
- Connect the pressure tubing to the sensor and the other end of the tubing to a flow transducer.
- Connect the USB sensor to a USB port on your computer.

3 Update Calibration Code
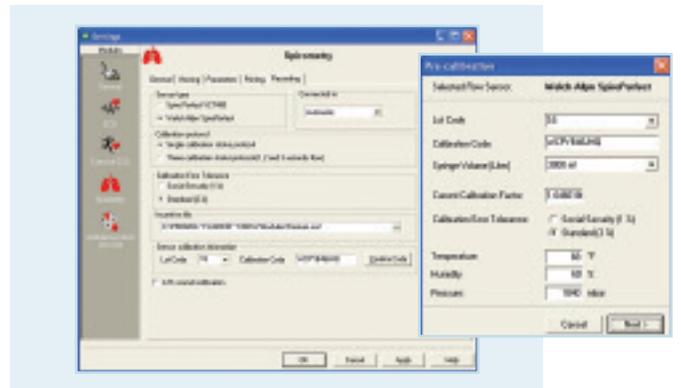
Each lot of flow transducers has a specific Calibration code. Make sure to update these in the SW when you receive a new lot of flow transducers.

The Lot number and Calibration Code are located on the outside packaging label of the flow transducer box. Update this information in the pre-calibration window or in the Recording tab of the spiro settings.

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4 Calibrate the Spirometer
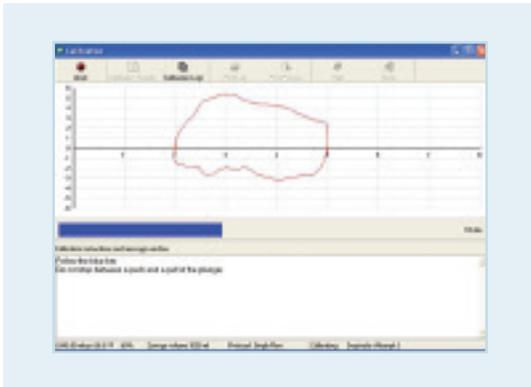
The spirometry module must be opened before you can perform a calibration.

- Select Calibrate located on the Toolbar.
- Update Calibration Code if needed, and Temperature, Humidity and Pressure fields.
- Press the Next button to continue.
- Pull syringe plunger out before connecting it to a new flow transducer.
- Press the Calibration button in the window.
- Wait until the message "Initializing sensor" disappears and the dialogue box with the image of the syringe appears.
- Verify the syringe is completely filled and press the OK button.
- Push the plunger in and pull it out without stopping in between.

5 Select Patient
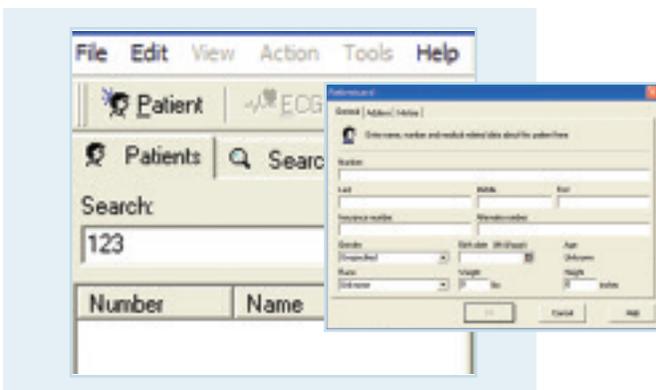
- Open the CardioPerfect Workstation Software by double clicking on the CardioPerfect icon.
- To enter a new patient:
  1. Click the Patient button.
  2. Fill in Patient Card.
- **To select a patient from the database:**
  1. In the Search box, type the patient name or number (can be a partial entry).
  2. Click the Go button.
  3. Click on the patient for whom you want to record the test.

6 Patient Preparation
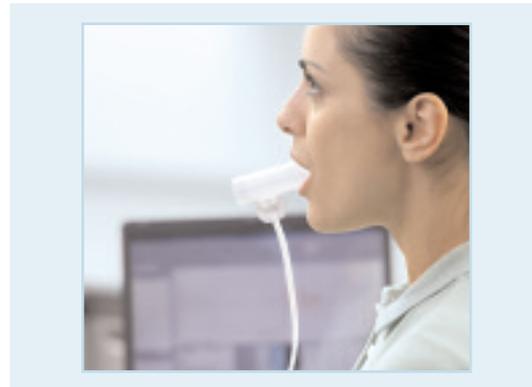
- Patient may sit or stand.
- Patient should loosen tight clothing.
- Patient should elevate chin and extend the neck slightly.
- Patient should use a nose clip or pinch his/her nostrils with fingers.

**Practice the procedure with the patient before starting the test**

Verify that no finger is blocking the back of the flow transducer if the patient holds it. This would create high back pressure and result in extremely high % prediction, rendering the effort invalid.

7 Patient Coaching
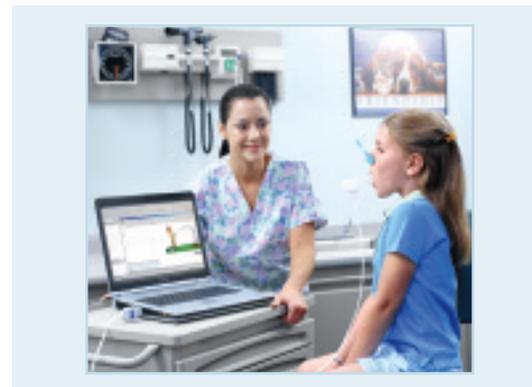
- Place the flow transducer in your mouth, on top of your tongue & between your teeth.
- Close lips and teeth around the flow transducer to create a tight seal, like if you were blowing in a musical instrument.
- Do not block the mouthpiece back screen with fingers.
- Keep your chin slightly elevated and make sure that your tongue is out of the flow transducer.
- Take a good deep breath.
- Now BLAST into the flow transducer as hard, fast and completely as possible.
- Keep blowing, squeeze all the air out.
- Optional: now forcefully inhale all the air.
- Stop.

8 Record a Test
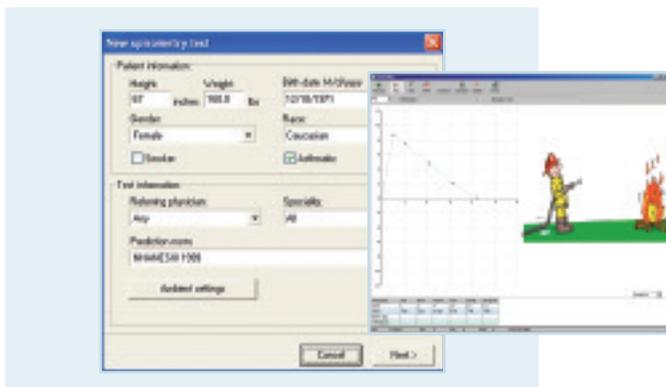
- Choose Spirometry, [Spirometry] located in the toolbar at the top of the screen.
- Update any Patient information and Test information fields in the New spirometry test window.
- Select Next.
- Select the FVC, SVC or MVV icon.
- Instruct the patient to hold the sensor away from his/her mouth and perfectly still until the message disappears.
- Select Record to start recording. The patient should not place the sensor in his/her mouth until the opening sensor message has disappeared.
- When the patient has finished, select Stop.
- After 3 satisfactory efforts, select Done. The Spirometry view appears, displaying all the pre efforts.

9 Record a Post Test (Optional)

- Either click on the Spirometry icon [Spirometry] and select Add New Effort, or click on the New Effort [New Effort] icon, located in the taskbar at the top of the screen.
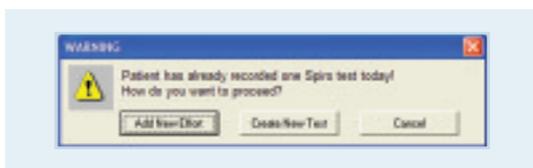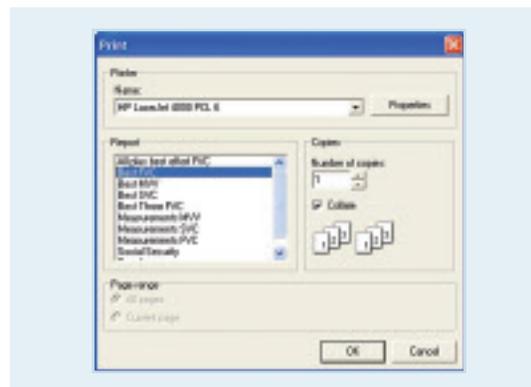

- Select the FVC, SVC or MVV icon
- Select Post.

- Enter the medication and dosage.
- Select Record to start recording.
- When the patient has finished, select Stop.
- After 3 satisfactory efforts, select Done. The Spirometry view appears, displaying all post efforts.

- Select the Final Result stage to see % change from pre to post.

10 Review Data and Print Report

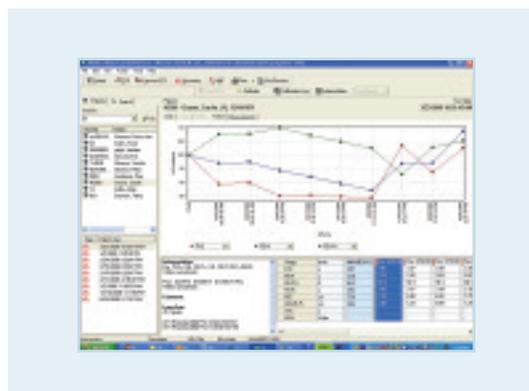You can choose from multiple spirometry report templates.

- Click on the down arrow next to the Print icon and choose "Print Selected Formats to initiate printing.

If you just want to print one page, click on the Print icon, and select the desired report page.

11 Trend and Compare Data

You can compare tests done on different days and clearly see how patients progress. View three parameters at once as a percentage of predictive values or of absolute value.

- Choose Action in menu.
- Select Comparison.
- Click on the check box in front of each test to select the test you want to compare.
- Go to the trend tab to see the trending chart.

Only the FVC tests are listed in this window.

SPIROPERFECT™
ACCESSORY REORDER INFORMATION

WA PART NUMBER	PART DESCRIPTION
703418	Disposable Flow Transducers, 25 pk,CPWS,CP 200
703419	Disposable Flow Transducers, 100 pk,CPWS,CP 200
703415	Pressure Tubing, CPWS, CP 200, 2m
703554	Replacement Sensor, USB, CPWS, SPIRO
703552	Replacement Sensor, RS232, CPWS, SPIRO
100680	Nose Clip, 25 pk
703480	Syringe,Calibration, 3 L,CPWS,CP 200,SPIRO

SPIROMETRY
PRODUCT INFORMATION & TRAINING MATERIALS

WA PART NUMBER	PART DESCRIPTION	WA PART NUMBER	PART DESCRIPTION
71038-3000	Spirometry Reference Chart—English	703337	Effort Acceptability Poster—English
703281	Spirometry Reference Chart—French	703338	Effort Acceptability Poster—French
703283	Spirometry Reference Chart—German	703339	Effort Acceptability Poster—German
703284	Spirometry Reference Chart—Spanish	703370	Effort Acceptability Poster—Spanish
703286	Spirometry Reference Chart—Norwegian	703373	Effort Acceptability Poster—Norwegian
703287	Spirometry Reference Chart—Dutch	703374	Effort Acceptability Poster—Dutch
703288	Spirometry Reference Chart—Swedish	703375	Effort Acceptability Poster—Swedish
703289	Spirometry Reference Chart—Danish	703376	Effort Acceptability Poster—Danish
703290	Spirometry Reference Chart—Portuguese	703377	Effort Acceptability Poster—Portuguese
703291	Spirometry Reference Chart—Italian	703378	Effort Acceptability Poster—Italian

WA PART NUMBER	PART DESCRIPTION
703413	CPWS SpiroPerfect Tutorial CD
703733	CPWS SpiroPerfect Quick Start Guide

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