



**Cardinal Health**  
Quayside  
Chatham  
Kent ME4 4QY  
T: 01634 893500  
W: cardinalhealth.com

Practice Nurse  
Gourock Medical  
Practice

# MicroLoop and SpidaXpert: spirometry in general practice

Practice nurse Helen Heffernan tried out the MicroLoop Spirometer and SpidaXpert software package using the Emis system. Here are her results ...

Annual spirometry screening is recommended for all COPD patients to assess their lung function. It is also a fundamental test in the diagnosis of COPD.<sup>1</sup> Most GP practices now carry out spirometry routinely and it is often the practice nurse who becomes the expert practitioner. Spirometry needs to be done properly to be meaningful, which can be a time-consuming activity in a busy COPD/asthma clinic. The MicroLoop Spirometer and SpidaXpert software can greatly speed up this process while displaying useful visual graphs and information on the computer screen. The spirometry results are also automatically downloaded to the patient's electronic file, negating the need to enter results manually after the procedure.

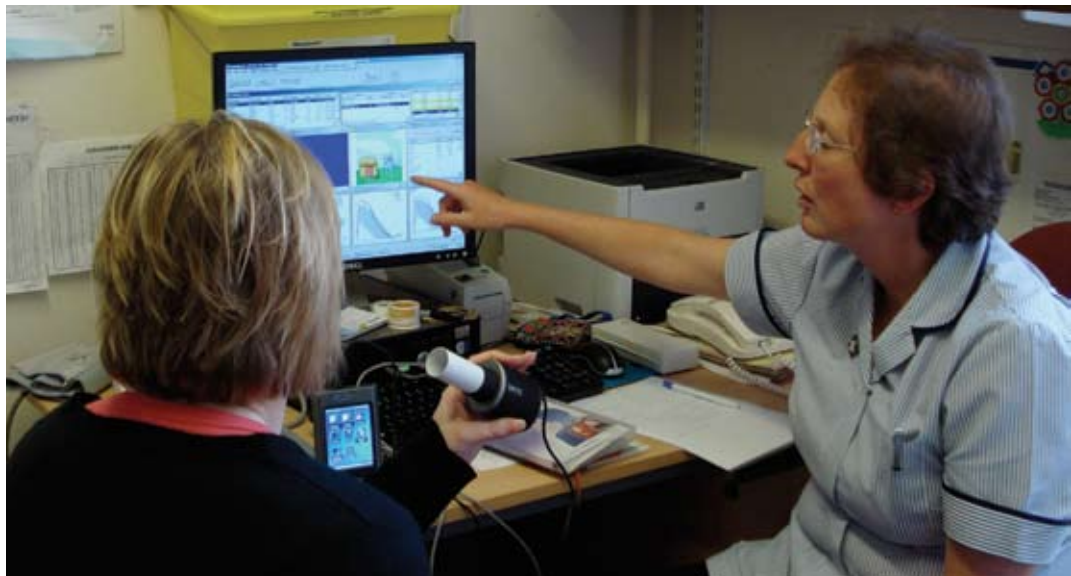
## The spirometer and software

The portable MicroLoop Spirometer plugs into the computer and the patient's data appears on the SpidaXpert screen when their file is highlighted on the Emis computer system. The touch-screen spirometer is very neat and easy to use with the usual disposable mouthpieces. It can also be used independently of the computer; if used in a patient's home, for example, the data would be stored and could then be downloaded into their SpidaXpert file at a later date. The MicroLoop

Spirometer's screen displays coloured graphs and information on the various blows, and it is easy to change settings by touching the screen with your finger or the plastic stylus provided. This device can be used hand-held and can sit in its stand beside the computer to recharge its battery. Once the SpidaXpert screen is set up, the software indicates when to blow and also gives an interpretation of each blow. For example, it may say "within normal limits", or inform the practice nurse if a blow was effective or not.

The British Thoracic Society (BTS) guidelines recommend at least three blows of relaxed expiry and three blows of forced expiry - the interpretation box highlights if these blows are satisfactory or incomplete.<sup>1</sup> The "forced expiry" results box also gives an indication of the quality of the blow based on previous efforts, eg, "good blow" or "blow harder". This can be useful when assessing whether to repeat the blow or not and can be encouraging to the patient who may be working very hard. Indeed, if your COPD patient is not out of breath doing spirometry, then they are possibly not trying hard enough.

Reversibility testing using a bronchodilator may be indicated when diagnosing COPD, but is not required on a routine basis. The screen displays these results and





gives a positive or negative percentage compared to the baseline values of the FEV<sub>1</sub>, in other words, it does the calculation for you.

A summary of all the results is displayed and the FEV<sub>1</sub>/FVC ratio as a percentage of predicted values is automatically calculated. The patient's accurate height and weight is added each time the software is used, and their age is automatically available from the emis system.

Four graphs at the bottom of the screen respectively display the best blows and all the blows in different colours. This information is also numerically displayed on the screen. There is also a choice of animated child incentive displays, which are optional. As my COPD clinic consists of middle-aged to elderly adults I was initially unsure of this feature, however, Mr Wolf huffing and puffing the house away proved to be a big success and everybody wanted to blow that house down! This added a bit of light relief to an otherwise serious medical test and it also gave a very visual image of how good the blow was.

Other features such as the "lung age" calculation is particularly useful for smokers. For example, if a 55-year-old can see that their calculated lung age is 80 years, it can be a powerful visual incentive to quit smoking.

### SpidaXpert software

I was impressed by the graphics and the software's ease of use once I had become familiar with the layout. The various colour graphs can be explained to the patient and these have much more impact than sets of numbers ever can. I always ensure that the screen is easily visible to the patient and explain the procedure as we go along. I found this much easier to do on the computer screen rather than explain the numbers and graphs on a small paper print-out from my old spirometer. Spirometry is all about numbers that are often very inaccessible to patients, so the visual graphics and graphs with the SpidaXpert software make it come alive.

One of the most useful features of the MicroLoop Spirometer and SpidaXpert software was the automatic downloading of data into the patient's emis medical notes. With my old system I would print out the spirometry results, photocopy them and then have them scanned into the patient's file. Automatic download is a tremendous time saver for the busy practice nurse.

I also found the compact MicroLoop Spirometer very handy to use and there are times when I, or the GP, would use it in a nursing home or patient's home situation because it is so easily portable.

The results can also be printed out if required and there were some features of the software that I didn't attempt to use because I am unfamiliar with them, such as the open and closed flow/volume loop test. It is also possible to overlay previous test curves for comparison, which would be useful when comparing spirometry results on an annual basis to determine a trend.

### Conclusion

I found the MicroLoop and SpidaXpert software easy to use - it is an extremely visual way of displaying the spirometry data. You get immediate prompts throughout the test and an ongoing interpretation of each blow as it occurs. This greatly assists decision-making during the test about the number and quality of the blows. The patient also has a visual display of the spirometry test to accompany the explanation given by the practice nurse. The data could be neatly downloaded into the patient's file without the need for print-outs or photocopying, but there is always the option of printing the results if required. Any product that saves time and gives accurate and accessible information is a useful tool when doing spirometry testing, and the MicroLoop and SpidaXpert software package does just that. ●

**For more information on these products, please contact Cardinal Health on 01634 893500 or visit [www.cardinalhealth.com/micro](http://www.cardinalhealth.com/micro)**

### Reference

1. National Clinical Guideline on Management of COPD in Adults in Primary and Secondary Care. *Thorax* 2004;59:Suppl 1.