Spirometry Factsheet – January 2024

The following factsheet has been designed to support you as you progress through your spirometry learning. This factsheet will be provided to you every month after each tutorial.

New to the programme?

Please ensure that you have viewed the meet and greet video for those of you working through the Spirometry Online blended learning with ARTP and the Spirometry Refresher Programme with ARTP.

Support Available

If you have a question or query, please can we ask that you access the following link and complete the form rather than emailing us. A member of the team will contact you. Alternatively, you can use the form if you would like a particular topic to be covered at the monthly tutorial.
https://forms.office.com/Pages/ResponsePage.aspx?id=VsTAAthQqkWkgjh96Vc-WY9ZFgW_JFBDmuyqYm8_KopUMTBUNllJMVVVRTZXSDY3R0JCQ0xJUDZKVC4u

Your monthly tutorial

You can attend a monthly tutorial where you can ask questions and queries associated with your spirometry learning. These will now be:

- **Performing**

These sessions are designed to provide you with an overview of how to perform spirometry. Here we will be discussing key components such as calibration and verification as well as providing some key hints and tips to support your patient getting ready to undertake spirometry.

- **Performing and Reporting (interpreting)**

These sessions are designed for those learners who will be involved in performing spirometry and reporting (interpreting) on spirometry traces. We will cover a step-by-step process on how to report (interpret) a basic spirometry trace. You

should attend this tutorial if you are confident on performing spirometry and are ready to report (interpret) a spirometry trace.

- **Reporting and getting ready to undertake your ARTP certification**

These sessions are designed for those learners who are nearing completion of their spirometry eLearning and are ready to apply for their ARTP certification (assessment). Within this tutorial we will be covering how to report (interpret) more complex traces and providing you with hints and tips to the ARTP certification process.
Please ensure that you have attended the performing and performing and reporting tutorials.

Occupational Health

These sessions have been designed for those learners who are operating outside of primary and secondary care and are currently operating in the following area of practices Army, Ministry of Defence and occupational health settings.

Which tutorial to attend?

These tutorials are rolling and therefore as you work through your programme, you can move from one tutorial to another so for instance you can attend the performing tutorial initially. Once you are confident with performing spirometry then you can attend the performing and reporting tutorial and so on.
There will be an opportunity to ask questions during the monthly tutorials; any questions that may come in advance and are not covered on the rolling programme, will be addressed on the day.

How to work through the Spirometry Online blended learning programme?

The Spirometry online blended learning programme consists of eLearning units and monthly tutorials. We encourage you to work through the chapters in a linear format so that you gain a thorough understanding of the spirometry process. Depending on your role in spirometry you may wish to spend more or less time on some chapters versus others. Please check your welcome pack for further details. **Please note this does not apply to those of you on the Spirometry Refresher programme.**

I am completing the Spirometry Blended Online Programme with ARTP certification. Do we have to complete the eLearning before we access the ARTP certification?

Education for Health's learning is independent of the ARTP assessment. We would recommend that you apply for your ARTP once you have completed all the eLearning chapters and have undertaken practical training in your area of practice.

Frequently Asked Questions (FAQs):

The Association for Respiratory Technology and Physiology (ARTP) have put together a few FAQs: https://www.artp.org.uk/Spirometry-FAQs

Spirometers

If you have any questions around spirometers, we encourage you to contact the manufacturers in the first instance. Education for Health does not endorse any particular spirometer for use in the clinical situation. For advice re: suitability of spirometers, please refer to the manufacture's website for detail of the variety and performance of their products.

Questions from January 2024 on-line Tutorial

Q 1. Please can we discuss DLCO and how to interpret please

Please see this document for more information on diffusing capacity of the lungs for carbon monoxide (DLCO)
https://erj.ersjournals.com/content/early/2023/07/20/13993003.01519-2022

Q 2. Did you say we don't need to know about DLCO for the MCQ and OSCEs?

For spirometry certification DLCO is not part of the assessment process.

Q 3. I'm having trouble doing enough tests that meet all the criteria. Are we allowed to submit reversibility tests as 2 tests?

Yes, any tests that meet the ARTP criteria for quality assurance can be submitted.

Q 4. When doing the biological controls, do the PEF have to be within 40mls across all 10 tracings? Or just the same day of testing? And what period do the biological controls have to performed over? I work part time and unable to do these on consecutive days .

All 3 of the highest PEF readings must be within 40L/min. For a person with normal lung function, which is a criterion for the biological control, the PEF should not vary day to day. Please see ARTP (2023) Spirometry Standards Document re: biological controls. https://www.artp.org.uk/resources/spirometry-standards

Q 5. In the top ten tips, guide to quality assured spirometry, in one example it doesn't use the highest FEV1 from all blows but uses the same blow as highest FVC. Please confirm that we should be using the highest FEV1 from all blows , not the same blow as the highest FVC.

The best values should always be used, regardless of which blow produced the highest value. They do not need to come from the same blow.

Q 6. is there a video which shows an 'OSCE-ready' how to do spiro to make clear what needs to be done? A link would be helpful- thanks.

https://www.youtube.com/watch?v=i0F2Fsrl634&embeds_referring_euri=https%3A%2F%2Fwww.artp.org.uk%2F&source_ve_path=OTY3MTQ&feature=emb_imp_woyt

Q 7. During reversibility testing are disposable spacers ok to use and do you need to do tidal breaths with them or 1 single breath per each puff of SABA?

Please refer to the manufacturer's instructions.

Q 8. Can you remind me on the maximum number of attempted breaths per spiro session please? I was trying to double check it earlier and couldn't find the document.

ARTP Statement on pulmonary function testing 2020: "If the repeatability criteria are not achieved, then the manoeuvre can be repeated up to eight times, after which the probability of getting a better result is greatly reduced."

Q 9. Will we all be asked to perform reversibility during the OSCE? as this is not something we do.

No, reversibility testing is not part of the OSCE.

Q 10. If we fail the patient tracings or biological controls, do we have to repeat the entire 10 tracings or just re-submit the ones that are not correct?

You should repeat those that have not met he ARTP standards only.

Q 11. For our portfolio we need to use the z-score to report our findings rather than the %?

No, you would use what your spirometer provides, such as % predicted values European Community of Coal and Steel (ECCS) reference equations. You will need to know about the z-score for the MCQ and for your ongoing development.

Q 12. Our current spiro machine doesn't comply with ARTP guidelines - will this cause issues for portfolio/ocse/mcq?

If you are referring to The Global Lung Initiative (GLI 2012) or European Community of Coal and Steel (ECCS) please see question 11.

Q 13. Mild means -1.645 to -2?

ARTP Statement on pulmonary function testing 2020: Severity classification in airflow obstruction is a two-stage process:

1) The FEV1 /FVC (or FEV1 /VC) must be below the LLN (z-score <−1.645) to be classified as obstructive.
2) Severity grading is then based on the FEV1 z-score with the exception that the mild classification would include any FEV1 z-score >/= -2.

Q 14. What is a significant change in FVC or VC post bronchodilator in the absence of a significant change in FEV1 and how do we interpret that? Thanks

It always goes back to the clinical history and the purpose of the spirometry. For reversibility, you are looking for the change in FEV1.

Vigna et al (2018) “In hyperinflated patients, the measurement of FVC before and after bronchodilator administration identifies a response that may not be uncovered by the FEV1 measurement. Bronchodilators reduce hyperinflation and

FVC improvements after bronchodilator administration are related to the reduction in residual volume (RV), functional residual capacity (FRC) and total lung capacity (TLC), which also results in an increase in inspiratory capacity (IC), a parameter linked to the improvement in exercise tolerance and dyspnoea perception".
For more information see:
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6502113/pdf/ACTA-89-332.pdf

Q 14. My spirometry machine gives the same time for each different blows, no matter what time I do them. Will I fail this aspect of the portfolio as each blow should be 30s apart?

It might be appropriate to contact the manufacturer. As you say, the patient needs a minimum of 30 seconds rest period between blows.

Q 15. Please can you discuss further how to use the trace when the patient has coughed at the end.

It is important that you record the detail for the person reporting the results. Often, if all other elements of the trace reach quality standards, the VC might be the surrogate marker. In a normal subject, the VC and FVC should be comparable. It always goes back to the patient hisotry and purpose of the spirometry request.

Q 16. If FVC and VC aren't within 150mls for every tracing in the portfolio traces will this fail?

The normal traces that do not meet this criterion will need to be re-submitted, therefore overall, the portfolio will be a fail.

Q 17. How do I access pebble pad?

You need to complete the ARTP booking form on your eLearning platform, the ARTP will then send over the Pebblepad details.

Q 18. Do we need to submit all the traces for biological control too or just tabulate the readings?

You must submit the traces. The instructions re the portfolio requirements will be clear once you have enrolled.