



ARTP

Association for
Respiratory Technology
& Physiology

ARTP Spirometry Certification Portfolio Audit report

Portfolio data for six months April-September 2024 was reviewed to give overall pass rates, alongside feedback provided by candidates. 10% of the portfolios submitted over this timeframe were audited to review pass and fail rates for each section.

Table 1. Pass and fails rates of 335 portfolios submitted. Results show overall results as well as numbers of passes and fails at different submission attempts.

Total examinations conducted	335
Overall pass rate	164 (49%)
Fail overall:	171 (51%)
No. of passes on 1st attempt	29 (18%)
No. of passes on 2nd attempt	69 (42%)
No. of passes on 3rd attempt	42 (26%)
No. of pass on >3rd attempt	24 (14%)
No. of fails on 1st attempt	112 (65%)
No. of fails on 2nd attempt	40 (23%)
No. of fails on 3rd attempt	16 (9%)
No. of fails on >3rd attempts	3 (2%)

Table 2. Fail rates for each section of the portfolio.

Report	Fail rate
Section 1 (background info)	0%
Section 2 (performance criteria)	24%
Section 3 (calibration and verification)	29%
Section 4 (physiological control)	74%
Section 5 (infection control)	13%
Section 6 (patient tests)	78%
Section 7 (problems encountered)	74%
Section 8 (declaration)	0%

Table 3. Fails rate for each question within the portfolio. Section 1 and 8 were excluded as there were no recorded fails in this section

		Fail rate
Section 2		
	1	77.78%
	2	33.33%
	3	55.56%
Section 3		
	1	9.09%
	2	9.09%
	3	72.73%
	4	27.27%
	5	18.18%
Section 4		
	1	7.14%
	2	71.43%
	3	75.00%
Section 5		
	1	40.00%
	2	40.00%
	3	20.00%
Section 6		
	1	77.78%
Section 7		
	1	58.62%
	2	68.97%
	3	55.17%
	4	51.72%
	5	44.83%

Table 4. Fail rate for each section on those portfolios that required more than three submissions.

More than 3 submissions fail rate	
Section 3	80%
Section 4	100%
Section 6	100%
Section 7	100%

Candidate feedback

Average score as rated on a five-point Likert scale, with five the most positive response option:

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	Mean	Frequency of responses for each rating				
		1	2	3	4	5
Please indicate how easy it was to access the portfolio	4.15	1	4	16	25	71
Please indicate how easy it was to navigate through the portfolio	4.07	2	5	18	32	60
Overall, please rate your overall experience completing the portfolio assessment	3.54	10	7	29	37	34

Selected candidate feedback

“I found it difficult doing the biological tracings, especially when I found out that the FVC and VC should be no more than 150mls of each other.”

“Completing the portfolio felt like a very long process, so many individual tasks and questions to complete alongside clinical work. The OSCE and MCQ were much more straight forward.”

“spirometry reports for patients tests to meet the ARTP requirement, I wish there was a bit of lee way as this wasn’t down to me to have spirometry reports in a different form then required, and to amend the reports took lots of effort and involvement of other people, so I needed extra time and additional submission which I had to pay for myself”

“I learnt a lot from doing the portfolio and from practicing the mock short answered questions.”

Summary

Overall the most failed sections, regardless of submission number were 4 (physiological control), 6 (patient tests) and 7 (problems encountered).

Of the individual sections it appears the following questions are failed most:

- Upload of suitable SOP
- Defining the terms calibration and verification
- Describe how often calibration and verification should be performed, and outline the protocol you use to verify your spirometer
- Uploading acceptable physiological control traces
- Calculating acceptable ranges for biological control data
- Patient tests.

Of those that failed their 3rd submission, therefore requiring addition paid submissions, all failed on sections 4, 6 and 7 and 80% failed section 3.

Plan going forward

Overall pass rates for the portfolios are poor and suggests, along with the candidate feedback, that this is the area of the competency certificate that is found most difficult and requires the most work.

It is clear from the data that sections 4, 6 and 7 are troublesome areas for candidates, along with one question in section 3 and so these areas will now be focussed on and reviewed to see how these can be improved. National guidelines regarding the use of physiological controls within departments are being reviewed so the new section 4 will reflect these. Section 7 (problems encountered) has already been changed, moving from free text answers to multiple choice to reduce marking inconsistencies and so will not be reviewed further at this stage. A review of section 6 (patient tests) will include determining how best to assess candidate's performance of spirometry in ongoing clinical practice. However, ARTP would reiterate that is essential that those healthcare professionals performing spirometry are able to evaluate whether a flow volume loop meets ARTP acceptability and repeatability criteria. This does not require candidates to understand what the results mean or how they will be used within the patient's pathway. Training providers should ensure that teaching content covers these guidelines.

Currently the pass mark to complete the portfolio is 100%. These criteria will also be reviewed to see if this high level is necessary and whether competency can still be demonstrated despite a lower pass mark.

Marking inconsistencies were reported in candidates' feedback and so a new assessor training process has been implemented along with a new marking scheme to ensure

marking is accurate and more consistent. ARTP are also in the early stages of implementing an external validation process of the portfolio marking.



ARTP c/o Executive Business Support
Stowe House, St. Chad's Road,
Lichfield, Staffordshire, WS13 6TJ
Tel: 01543 442141
E-mail: admin@artp.org.uk
Website: www.artp.org.uk