



Job Analysis Report

CERTIFICATION BOARD FOR STERILE
PROCESSING AND DISTRIBUTION (CBSPD)

Certified Flexible Endoscope Reprocessor (CFER)

August 2022

Submitted to:



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Executive Summary

This report describes the methodology and procedures used to conduct a job analysis and develop the exam specifications for the Certification Board for Sterile Processing and Distribution (CBSPD) Certified Flexible Endoscope Reprocessor (CFER) certification examination.

The three major activities that comprise the job analysis process described in this report are as follows:

1. **Job Analysis Committee Meeting** – A gathering of subject matter experts (SMEs) to discuss and develop a description of the scope of practice
2. **Job Analysis Survey** – A large-scale survey of practitioners not involved with the SME panel to validate the task and knowledge statements developed by the committee
3. **Development of Examination Specifications** – The development of an Examination Content Outline by the committee based on the results of the survey

Several practitioners were assembled by the CBSPD to serve as subject matter experts (SMEs). The individuals selected represent a wide variety of work-related characteristics such as years of experience, work setting, geographic location, and areas of specialty. This helps in developing a scope of practice that is reflective of the roles and responsibilities of the job role and is relatively free from bias. By analyzing the experiences and expertise of current practitioners, the results from the job analysis become the basis of a validated assessment that reflects the competencies required for competent job performance.

The job analysis process utilized in this study yields exam specifications that accurately reflect the scope of practice, allowing for the development of fair, accurate, and realistic assessments of candidates' readiness for certification. The resultant Examination Content Outline (Appendix E) indicates a 100-item examination with content distribution requirements at the competency area (content domain) level. The seven competency areas are:

1. Regulations, Standards, Guidelines and Safety
2. Life Sciences
3. Endoscope Anatomy and Procedures
4. Handling and Cleaning of Scopes and Accessories
5. Reprocessing of Scopes and Accessories
6. Documentation
7. Ethics

Introduction

This report describes the methodology and procedures used to conduct a job analysis and develop the exam specifications for the CBSPD CFER certification examination.

The job analysis was conducted in accordance with principles and practices outlined in the *Standards for Educational and Psychological Testing*¹, which describe principles and guidelines for all aspects of test development, including content validation.

A job analysis (sometimes referred to as a practice analysis, job task analysis, role delineation study, work analysis, or competency profiling) is a scientific inquiry conducted to identify the tasks and work activities conducted, the context in which those tasks and activities are carried out, and the competencies (knowledge areas, skills, and abilities) required to perform a job role successfully². Different methods can be used which may differ in the levels of specificity in analyzing and describing different work elements, with the choice of method largely dependent on the intended purpose and use of the results. The methodology of the current analysis was tailored to the creation of exam specifications for test development.

When completed, the job analysis process utilized in this study yields exam specifications that accurately reflect the scope of practice, allowing for the development of fair, accurate, and realistic assessments of candidates' readiness for certification. The job analysis is typically performed every 5 to 7 years so that the content outline represents the current scope of practice. Because it serves as the primary basis for content validity evidence, as required by the aforementioned standards, the job analysis is a primary mechanism by which a certifying body or regulatory board can ensure the accuracy and defensibility of an exam. It serves as the foundation of the certification exam and is critical to the success of the entire exam development process. All necessary documentation verifying that the validation process has been implemented in accordance with professional standards is included in this report.

This report is divided into the major activities of the job analysis process, which are:

1. **Job Analysis Committee Meeting** – A gathering of subject matter experts (SMEs) to discuss and develop a description of the scope of practice
2. **Job Analysis Survey** – A large-scale survey to practitioners not involved with the SME panel to validate the task and knowledge statements developed by the committee
3. **Development of Examination Specifications** – The development of an Examination Content Outline by the committee based on the results of the survey

¹ American Educational Research Association, American Psychological Association, National Council on Measurement in Education (2014). *Standards for Educational and Psychological Testing*. Washington, DC: AERA.

² Sackett, P.R., Walmsley, P.T., Laczko, R.M. (2012). *Job and work analysis: Industrial and Organizational Psychology*. In N. Schmitt, S. Highhouse (Eds.), *Comprehensive Handbook of Psychology*, Volume 12. New York, NY: John Wiley and Sons.

Job Analysis Committee Meeting

CBSPD selected subject matter experts (SMEs) to represent a wide variety of work-related characteristics such as years of experience, work setting, geographic location, and areas of specialty to develop a scope of practice that is reflective of the roles and responsibilities of the job and is relatively free from bias. See Appendix A for a complete list of the SMEs and their qualifications.

Prior to the job analysis committee meeting, three SMEs were interviewed to help provide background information on the job role, the history of the credential, and the anticipated future of the job role. These interviews were conducted between March 25, 2022 and April 1, 2022 .

PSI Services LLC (PSI) conducted a job analysis committee meeting on April 12, 2022 with SMEs to discuss the scope of practice and develop a list of knowledge areas that reflect the job role. PSI led the SMEs in refining knowledge statements and organizing them into a domain and subdomain structure. The outgoing exam content outline was used as a resource when developing the knowledge statements. See Appendix B for the presentation used to orient the job analysis committee at the beginning of the meeting.

The job analysis committee developed 36 knowledge statements across 7 content domains, as follows.

1. Regulations, Standards, Guidelines and Safety

1. OSHA (e.g., PPE, Blood Borne Pathogens including Standard Precautions, transport of soiled scopes and accessories, biohazard waste removal, Hazard communication, Safety Data Sheets, eyewash stations).
2. FDA (e.g., Medical Device Reporting; Compliance with Manufacturer's Instructions for Use)
3. EPA regulations
4. HIPAA
5. Standards: AAMI ST91, ST79, ST58; Guidelines: AORN, CDC (Spaulding Classification), ASGE, Multi-Society Guideline, SGNA.
6. Accreditation agencies (e.g., The Joint Commission, AAAHC).
7. Environmental safety (e.g., fire safety, electrical safety, patient emergency equipment including location and operation, waste management).

2. Life Sciences

8. Types of microorganisms that pertain to GI/Endo (bacteria, virus, fungus, prions).
9. Disease transmission (i.e., biofilm formation, bioburden).
10. Anatomy and physiology as related to GI and pulmonary body systems.
11. Medical terminology, signs, and symbols.
12. Medical procedures involving flexible scopes.

3. Endoscope Anatomy and Procedures

13. Anatomy of various flexible endoscopes.
14. Scope function (use of scopes) Includes knowledge of various types of scopes.
15. Reusable and single-use accessories (e.g., snares, water bottles, valves, buttons, and water-resistant caps biopsy forceps, etc.)
16. Use of sterile sheaths.

4. Handling and Cleaning of Scopes and Accessories

17. Prevention of cross contamination (e.g., design of endoscopy reprocessing area, workflow, traffic control, separation of clean/dirty).
18. Point of use treatment and transport of contaminated endoscopes including reusable accessories.
19. Inspection for visible soils, damage to scopes and reusable accessories.
20. Leak testing procedures: duration, methods of testing, actions to take with a failed leak test.
21. Selection and use of cleaning chemicals (e.g., pH, concentration, temperature, action of chemical, rinsing, and water quality).
22. Cleaning methods (manual and mechanical), cleaning implements (e.g., brushes) and equipment (e.g., automated flushing systems, automated endoscope reprocessors), delayed reprocessing.
23. Cleaning verification tests include borescope.

5. Reprocessing of Scopes and Accessories

24. High-level disinfection methods (e.g., manual, mechanical, AER).
25. Use of high-level disinfectants and liquid chemical sterilant (e.g., exposure time, temperature, rinsing, water quality, shelf life vs. use life of HLDs)
26. High-level disinfection chemical testing includes minimum effective concentration (MEC) and minimum recommended concentration testing (MRC), quality control testing of test strips, topping off solutions.
27. Post disinfection procedures, drying, labeling, and dating
28. Storage of HLD or sterilized scopes and accessories.

6. Documentation

29. Required or recommended orientation, training, and competency verification for all scopes, leak testing, flushing devices, cleaning verification, HLDs, etc.
30. Cleaning and high-level disinfection protocols.
31. Leak testing and chemical disinfection efficacy testing (MEC/MRC testing), quality assurance testing of HLD test strips.
32. Traceability to the patient.
33. Incident reporting.
34. Cleaning effectiveness testing (products and usage).

7. Ethics

35. Compliance with regulatory standards, best practices, procedures, and/or guidelines that have an impact on patient, employee or environmental safety; reporting instances of non-compliance.
36. Professional behavior (e.g., noncompliance with dress code, disruptive behavior, theft, willful damage to equipment/property, sexual harassment/workplace violence in ethics).

Job Analysis Survey

PSI developed, administered, and monitored a survey to validate the knowledge areas developed by the job analysis committee and to help determine content weighting. To this end, the survey collected respondents' ratings of the importance and frequency for each knowledge area. The importance and frequency scale were used to evaluate the appropriateness of the inclusion of each knowledge statement.

Importance

How important is this knowledge area to your job role?

- 0 - Not Relevant
- 1 - Minimally Important
- 2 - Somewhat Important
- 3 - Moderately Important
- 4 - Very Important
- 5 - Critically Important

Frequency

How frequently do you use this knowledge?

- 0 - Not Relevant
- 1 - Rarely
- 2 - Seldom
- 3 - Occasionally
- 4 - Frequently
- 5 - Very Frequently

Between April 15, 2022 and April 22, 2022, a pilot survey was conducted with the job analysis committee, the interviewees, and CBSPD staff members to ensure that the survey was operating correctly, and any modifications or corrections were made address the pilot survey reviewers' comments. See Appendix C for a copy of the final job analysis survey.

The live survey was sent using online survey software to a list of 4,269 individuals that was obtained from the CBSPD. The list consisted of CBSPD registered members. The number of individuals that responded to the survey was 532 (12.46%). The survey was opened on April 28, 2022 and closed on May 31, 2022. See Appendix D for the email sent to potential respondents.

Following the close of the survey, the data were analyzed to identify any respondents who did not complete the survey or provided responses lacking any variance (i.e., "straight-lining" or providing the same response to every knowledge). Responses from 231 respondents were removed from the data set, yielding a usable number of 301 completed responses. Of those respondents who were removed, 9 were removed due to not agreeing to take the survey, 76 were removed due to not working as Endoscope Re-processor in the past 12 months, 116 were removed due to a lack of variance in their responses, and 30 were removed due to completing less than 90% of the frequency/importance rating questions.

Table 1 shows the mean ratings provided for the frequency and importance of the knowledge statements.

Table 1.***Frequency and Importance Ratings for Knowledge Statements.***

#	Knowledge Statements	Importance	Frequency	% Relevance
1	OSHA (e.g., PPE, Blood Borne Pathogens including Standard Precautions, transport of soiled scopes and accessories, biohazard waste removal, Hazard communication, Safety Data Sheets, eyewash stations).	4.69	4.65	99.67%
2	FDA (e.g., Medical Device Reporting; Compliance with Manufacturer's Instructions for Use)	4.28	4.44	99.00%
3	EPA regulations	4.03	4.15	97.66%
4	HIPAA	4.58	4.58	99.66%
5	Standards: AAMI ST91, ST79, ST58; Guidelines: AORN, CDC (Spaulding Classification), ASGE, Multi-Society Guideline, SGNA.	4.47	4.46	99.33%
6	Accreditation agencies (e.g., The Joint Commission, AAAHC).	4.18	4.34	98.99%
7	Environmental safety (e.g., fire safety, electrical safety, patient emergency equipment including location and operation, waste management).	4.32	4.37	99.32%
8	Types of microorganisms that pertain to GI/Endo (bacteria, virus, fungus, prions).	4.15	4.36	99.67%
9	Disease transmission (i.e., biofilm formation, bioburden).	4.41	4.56	99.67%
10	Anatomy and physiology as related to GI and pulmonary body systems.	4.08	4.10	98.01%
11	Medical terminology, signs, and symbols.	4.07	3.98	99.33%
12	Medical procedures involving flexible scopes.	4.47	4.37	99.67%
13	Anatomy of various flexible endoscopes.	4.40	4.40	100.00%
14	Scope function (use of scopes) Includes knowledge of various types of scopes.	4.52	4.42	99.67%
15	Reusable and single-use accessories (e.g., snares, water bottles, valves, buttons, and water-resistant caps biopsy forceps, etc.)	4.46	4.39	99.00%
16	Use of sterile sheaths.	3.35	3.74	81.00%
17	Prevention of cross contamination (e.g., design of endoscopy reprocessing area, workflow, traffic control, separation of clean/dirty).	4.81	4.81	100.00%
18	Point of use treatment and transport of contaminated endoscopes including reusable accessories.	4.71	4.68	99.34%
19	Inspection for visible soils, damage to scopes and reusable accessories.	4.81	4.80	100.00%
20	Leak testing procedures: duration, methods of testing, actions to take with a failed leak test.	4.81	4.79	100.00%
21	Selection and use of cleaning chemicals (e.g., pH, concentration, temperature, action of chemical, rinsing, and water quality).	4.71	4.69	100.00%

#	Knowledge Statements	Importance	Frequency	% Relevance
22	Cleaning methods (manual and mechanical), cleaning implements (e.g., brushes) and equipment (e.g., automated flushing systems, automated endoscope reprocessors), delayed reprocessing.	4.78	4.76	100.00%
23	Cleaning verification tests include borescope.	4.31	4.46	84.56%
24	High-level disinfection methods (e.g., manual, mechanical, AER).	4.78	4.77	99.00%
25	Use of high-level disinfectants and liquid chemical sterilant (e.g., exposure time, temperature, rinsing, water quality, shelf life vs. use life of HLDs)	4.74	4.76	99.34%
26	High-level disinfection chemical testing includes minimum effective concentration (MEC) and minimum recommended concentration testing (MRC), quality control testing of test strips, topping off solutions.	4.75	4.77	99.34%
27	Post disinfection procedures, drying, labeling, and dating	4.76	4.72	99.67%
28	Storage of HLD or sterilized scopes and accessories.	4.72	4.71	99.67%
29	Required or recommended orientation, training, and competency verification for all scopes, leak testing, flushing devices, cleaning verification, HLDs, etc.	4.52	4.62	100.00%
30	Cleaning and high-level disinfection protocols.	4.71	4.71	99.67%
31	Leak testing and chemical disinfection efficacy testing (MEC/MRC testing), quality assurance testing of HLD test strips.	4.71	4.69	100.00%
32	Traceability to the patient.	4.47	4.63	98.66%
33	Incident reporting.	3.28	4.44	97.61%
34	Cleaning effectiveness testing (products and usage).	4.54	4.57	98.66%
35	Compliance with regulatory standards, best practices, procedures, and/or guidelines that have an impact on patient, employee or environmental safety, reporting instances of non-compliance.	4.50	4.61	99.33%
36	Professional behavior (e.g., noncompliance with dress code, disruptive behavior, theft, willful damage to equipment/property, sexual harassment/workplace violence in ethics).	4.05	4.44	95.99%

The survey included demographic questions regarding professional characteristics relevant to the job role. Table 2 shows a summary of the demographic questions in the survey.

Table 2.

Results of the Demographic Questions in the Job Analysis Survey.

1. Stepwise Screening Criteria	<i>n</i>
Total Respondents	532
1. Did not agree to take survey	-9
2. Have Not worked as an Endoscope Re-processor in the past 12 months? *	-76
3. Straight-Line Responding	-116
4. complete less than 90% knowledge frequency/importance ratings	-30
Final Sample	301

#	If you have not worked as an Endoscope Re-processor in the past 12 months, Why?
1	Am an educator
2	ANM GI
3	Because all open positions want at least 1 yr. experience and I only have my externship which was only 4 months. No one will give me a chance.
4	Because I'm a surgical technologist with a degree. I worked in endoscope while I was in school.
5	Change jobs
6	Couldn't find a job
7	Couldn't find a job
8	Currently working as Quality Specialist.
9	Did not pass board exam
10	Due to change in positions for medical reasons at the time. I wasn't getting all my hrs.in the endoscopy dept.
11	Due to new employment
12	Due to restructuring and reorganization of the company's operations and in June 2021 the hospital closed.
13	Endoscopy RN
14	GI lab tech cleans their scopes at facility I work at
15	Have not been able to get hired since receiving my certification.
16	Haven't been able to enter a hospital as a level 1 tech
17	Haven't been able to get pass the interview stage and no in suite/ Dr. Side experience.
18	I accepted a different position. Its rather difficult to work hard and achieve certifications in special areas when co-workers and managers don't care.
19	I am a Representative
20	I am an educator of reprocessing
21	I am in a leadership role now that does not allow time to work in the scope reprocessing area
22	I am in Infection Prevention and oversee staff who do this process.
23	I am not certified at this time.
24	I am teaching.
25	I am the nursing director
26	I had to resign from the hospital I worked at due to cervical & lower spinal damage

#	If you have not worked as an Endoscope Re-processor in the past 12 months, Why?
27	I have another role
28	I have been working as a sterile processing technician and I have not had to process endoscopes.
29	I manage Reprocessing in my department
30	I moved to dental services
31	I relocated & needed to start working to support myself & son
32	I teach the STERIS certification readiness courses
33	I went to a casual position and do the ordering. I am going to retire soon.
34	I work at Doctor's Hospital of Augusta in Central Sterile processing department which have a few flexible scopes, semi and ridge scopes only. We have an endo department and there's no full-time position for me.
35	I work in CPD and was required by my job to be certified. We process Endoscopes in my department.
36	I'm a vendor, I teach reprocessing.
37	I'm working in the operating room
38	In an education role, not a physical washing role.
39	Just got a job as a sterile processor and I can sense that most organization do not see the need for a separate certification as an endoscope reprocessor since they assume it's part of the general sterile processing. So far, the CFER certification has not been acknowledged in any of my interviews.
40	lack of job opportunities
41	left my position to move abroad to Europe; have since moved back to the US
42	My current position at this hospital provides this, but there are a select few in that department. You must be scheduled to be in that separate department. As of now, ORLs and SPD techs don't touch flexible scopes.
43	My facility has designated scope processors
44	My job is in sterile processing, and we only do cystoscopes, ureteroscopes
45	No longer do scopes in our area, all Endoscopes are now centralized for the hospital system
46	No longer work in GI
47	Not certified
48	Not in medical field.
49	Our SPD department is not handling scopes.
50	Reassignment
51	Relocation
52	Retired
53	RN in endoscopy
54	Still looking for job
55	Still need to pass the state exam
56	The job of flexible endoscope reprocessor is not widely offered
57	Vendor
58	Was furloughed
59	Wasn't able to pass my exam
60	We hang the scope for GI tech but no allowed to wash them...
61	working as an educator

2. Which job title best describes your most recent experience?	n	%
Endoscopy Clinical Staff	104	34.55%
Endoscopy Leadership	27	8.97%
Endoscopy Educators	7	2.33%
Sterile Processing Staff	78	25.91%
Sterile Processing Leadership	37	12.29%
Sterile Processing Educator	9	2.99%
Other (please specify) *	39	12.96%
Total	301	100.00%

#	Which job title best describes your most recent experience? Other (please specify) *
1	And Endo tec
2	Both Endoscopy clinical staff and Instrument specialist
3	Certified endo tech coordinator
4	CFER
5	clinical staff and reprocessing staff
6	CS SPD Certified Technician
7	CST, CFER, Endo Staff, Sterile processing staff
8	Endoscope hospital
9	Endoscope reprocessor
10	Endoscopic Technician
11	Endoscopy processing technician
12	Endoscopy tech
13	Endoscopy Tech and CFER
14	Endoscopy technician
15	Endoscopy Technician
16	Endoscopy Technician and Motility Technician
17	fiberoptic equipment specialist
18	Gastrointestinal Technician
19	GI tech
20	HEAD TECHNICIAN
21	High Level Disinfection tech
22	High Level Disinfection Tech
23	I am both endoscopist and reprocessor.
24	INSTIRMENT PROCESSING
25	Instrument/sterile processor
26	instrumental technician
27	Lead Endoscopy technician
28	Lead tech in clinical endoscopy/ sterile processing
29	Reprocessing Specialist of the hospital
30	Scope reprocessor technician
31	Surgical technologist

3. What is your current work setting?	n	%
Ambulatory Surgery Center	92	30.56%
Clinical Setting/Doctor's Office	14	4.65%
Flexible GI Scope Sales or Service Company	3	1.00%
Non-Teaching Hospital: Less than 200 Beds	31	10.30%
Non-Teaching Hospital: 200 to 400 Beds	28	9.30%
Non-Teaching Hospital: 401 to 800 Beds	16	5.32%
Non-Teaching Hospital: More than 800	5	1.66%
Teaching Hospital: Less than 200 Beds	13	4.32%
Teaching Hospital: 200 to 400 Beds	33	10.96%
Teaching Hospital: 401 to 800 Beds	25	8.31%
Teaching Hospital: More than 800 Beds	14	4.65%
Other (please specify) *	27	8.97%
Total	301	100.00%

#	What is your current work setting? Other (please specify) *
1	100 BED HOSPITAL
2	And Ambulatory center
3	Clinic setting
4	Clinical Setting Educational Institute
5	endoscope scope room
6	Endoscopy
7	Endoscopy and Motility Clinic
8	endoscopy outpatient unit.
9	Flexible scope
10	Gastroenterology suit at the hospital
11	helping in reprocessing the flexible endoscopes
12	HLD tech
13	Hospital based endoscopy suite
14	I'm working in the hospital for 7 years us sterile processing rec and GI Cleaning endoscopy
15	INSTIRMENT PROCESER
16	Medical Center
17	non-profit hospital not sure if we are a teaching hospital-less than 200 beds
18	Outpatient Center
19	Setting for GI procedures
20	SIUH-NORTH Endoscopy Suite
21	SPD
22	SPD/CSS
23	Sterile Processing
24	Sterile processing Technician
25	Surgery Center\Hospital
26	Trauma hospital 1279 beds
27	We have 3 locations, and I am the lead tech for ambulatory and a hospital-based GI unit.

**4. How many years of experience do you have reprocessing flexible endoscopes?
(Please enter a whole number. Decimals, percentages, and non-numeric characters
are not accepted) n=301**

Mean = 11.94 | Standard Deviation = 8.17 | Minimum = 1 | Maximum = 42

5. What certifications and/or licenses do you presently hold? (Select all that apply)	n	%
OR Surgical Technologist	31	10.30%
Certified Sterile Processing and Distribution Technician (CSPDT)/Certified Registered Central Service Technician (CRCST)	129	42.86%
Certified Surgical Instrument Specialist (CSIS)/Certified Instrument Specialist (CIS)	23	7.64%
Certified Flexible Endoscope Reprocessor (CFER)/Certified Endoscope Reprocessor (CER)	236	78.41%
Certified Sterile Processing Management (CSPM)/Certified Healthcare Leader (CHL)	26	8.64%
None	20	6.64%
Other (please specify) *	34	11.30%
Total	301	

#	What certifications and/or licenses do you presently hold? (Select all that apply) Other (please specify) *
1	AGTS and GTS
2	BLS
3	CBSPD
4	Central sterile certificate
5	Certified gastroenterology RN
6	CGRN
7	CHL
8	CHL through HSPA
9	CNA
10	CSPDT
11	DOH license
12	Expired
13	GI technical Specialist
14	GI Technical Specialist
15	GST
16	I let my 5-cert lapse.
17	i was Certified in 2012 i am retaking exam
18	IAHCSMM
19	LPN
20	MA
21	Medical Assistant
22	My certification has expired, and I have to take the exam
23	NAC, AGTS through SGNA
24	Nursing assistant license
25	Paramedical Council of India

#	What certifications and/or licenses do you presently hold? (Select all that apply) Other (please specify) *
26	RN
27	SGNA
28	SGNA AGTS
29	SGNA Technician Certification

6. In which location do you primarily work?	n	%
United States, including territories	294	99.32%
Other (please specify) *	2	0.68%
Total	296	100.00%
*India, UAE		

7. Based on the practitioner definition, how well do you feel this survey covered the knowledge and tasks related to this profession?	n	%
Completely	190	63.12%
Adequately	102	33.89%
Inadequately (please specify why) *	6	1.99%
Total	298	100.00%

#	Inadequately (please specify why)
1	Everything I feel was cover very well on what I do on a daily base...
2	nothing on education/certification
3	Survey was too long
4	Was very thorough
5	Well done

8. What knowledge area, if any, do you think is missing from this list?	
1	3 M testing
2	accountability
3	Accountability
4	Basically, you cover all Endo process.
5	Brush the scopes until it is clean Leakage tester is very Important me at all time and manual cleaning...
6	Case loads of reprocessing endoscopes on very busy days, how do you manage and make sure that every endoscope is thoroughly cleaned without being overwhelmed?
7	Communication between the doctors/nurses and CFERs/CRCST's; exchange in relevant information
8	continuing education
9	Could think of none at this time.
10	Covered pretty much everything
11	Cross training
12	Damaged Scopes and sending them out for repair.
13	direct knowledge of anatomy, various areas of organ functionality. description of what kind of procedures.
14	Documentation Point of use cleaning

8. What knowledge area, if any, do you think is missing from this list?	
15	does the employer provide the appropriate tools to complete the job
16	education/certification
17	Handling and transport of scopes.
18	Handling of scopes without gloves. This seems to be missing from any manuals, and there are people that have not understood the importance of handling the scopes without contaminating them. Also, the importance of thoroughly drying the scopes prior to using and storing.
19	Have all
20	I also have input on purchasing new equipment and work with the various reps.
21	I believe that nothing is missing however I think a fail proof check list should be implemented before endoscopes are stored for ready to use.
22	I don't see any missing
23	I doubt if there is any.
24	I think most of them are covered, except Continue education resource and training.
25	I think you covered everything
26	I think you touched all the important areas
27	Making sure the scopes are cleaned within 60 minutes of the procedure and what to do if this isn't accomplished.
28	Minimum required manual processing time should be given. If the scopes are done in shorter time, then it will show that shortcuts must have been taken.
29	More instructions on sites of where to maintain CEU's for furthering education
30	n/a
31	N/a
32	N/A
33	NA
34	No
35	Non
36	none
37	None
38	None from what I see
39	None is missing
40	None! Your doing a good job. Keep it up.
41	None.
42	None. I believe all areas have been covered
43	Nothing
44	Nothing is missing
45	Nothing that comes to mind
46	Overall major aspects have been covered in this survey
47	Parameters for probes as well such as the TEE probe that manually gets hi level disinfection processing.
48	Patient care in the procedure room
49	personal hygiene
50	Record keeping, autoclave use
51	Retrieving of Pt info from Processor
52	Robotic scopes, MIS scopes, Equipment used in reprocessing available//usage ex Trophoo, TEE 100
53	very thorough
54	you have gone over every detail.

9. Please provide any additional comments here.	
1	CFERs are a vital force that controls the reprocessing of endoscope.
2	Don't recall seeing how to spot a damaged endoscope aside from failing the leak test. Buttons can become damaged as well as the bending rubber, angulation knob etc
3	Educative and inspiring
4	GI Technicians are not recognized as an actual profession in Colorado. No education of any kind is required.
5	Hopefully I answered the correct way. I'm hoping I wasn't reading some of the questions in a different way
6	I am working as a scope tech in a hospital setting always following protocols and procedures relates to this critical job.
7	I believe that anyone taking any certification test needs to actually have hands on training whether it is flexible endoscopes or instruments. Too many "SPD schools" do not provide hands on training, its books only. It sets the student up for failure and it is not fair to them once they start working in a SPD department and have little to no knowledge.
8	I believe you have covered adequate information. We all need to know as much info. as we can help with the safety of our patients and our employees
9	I feel like where I work having a certification and over 20 years' experience isn't valued. They bring in people off the streets who make the same rate and if they are a minority male they are put in charge!
10	i feel that the current test that I took was very vague and not so direct more theory based instead.
11	I felt the study guide didn't have enough of the questions on the exam
12	I found the most perplex specification, unacknowledged by a plethora of manufacturers' instructions for use in reprocessing their flexible endoscope is: apathetic indication on the number of non-use days amounted prior to mandatory reprocessing. In due diligence toward initiation of this protocol, I recommend facilities establish this guideline by contacting the provided company's representative for clarity of their sequential system's non-disclosure within instructions. Should the unwritten necessary rule for change of a endoscope compliancy not be given by your representative. I suggest the CHL research dependently upon One Source, to understand the proper storage sterility techniques and environmental factors that impact your endoscopes shelf-lives. Following up with analyzing your facilities operable inventory quantity adversely to its daily surgical endoscopic procedures: in order to ensure the fiber and optic quality remain functional in accordance with the manufacturer intended life span of the endoscope. Factored together the aforementioned variances with AAMI and Joint Commission regulations for hi- level disinfection processes: the standardized procedure formulated should be instructed to all sterile staff, requiring adherence by consent of signature.
13	I practice on a daily doing the right thing at all times that my motto and doing the best job that I can do on disinfectant our scopes
14	Is there a way if somebody fail for 1 to 5 points can they do the retake by performing the actual test?
15	It's really important test
16	Leak testing instructions need to be clearer. Such as hook ups, dry leak test, then clean water, check, lift entire scope out of clean water, turn off leak tester, pull plug on leak tester, then disconnect from scope before setting back into clean water, then cleaning can be started. Too many people do not do this properly.

9. Please provide any additional comments here.	
17	Maybe add links for CEU's because the industry evolves every day, and it would be good for students to know this, and it may help them keep up to date with the ever evolving industry.
18	more emphasis on scopes usage, reprocessing steps
19	N/A
20	Needs to include more specifics like forced medical air drying of scopes and newer disposable ErCP scopes and newer ones with disposable elevators
21	No
22	No comments
23	none
24	None
25	NONE
26	Patient related (safety or privacy)
27	Push for hospitals to help pay for certifications and re-certs. I had to pay for both out of pocket. it gets expensive. I let my CFER Expire.
28	Survey was great
29	Thank you for being thorough
30	Thanks
31	The ease and ability to comprehend all changes i.e. ST 91 conversation that it is not even been passed and to not follow these recommendations is very disheartening considering these changes were needed.
32	The protocol is somewhat intense after each case because we have to follow all rules and regulations.
33	The scopes that I use, and process are without channels (simple laryngoscopes) so I felt like I learned much more while studying for CFER exam than I ever really needed since it was about channeled scopes. It was interesting info though and I enjoyed it!
34	The survey further served as a refreshing tutorial and competency training for me.
35	The survey was based on areas of Gastroenterology but it was a very long survey
36	The test had questions that were primarily based on assisting with the endoscope procedures, not so much endoscope reprocessing
37	There are other tasks, such as when a scope fails leak test. when the scope fails during procedures protocols, standard practice
38	This survey completely addressed the whole process of scope reprocessing
39	This survey is excellent
40	Too many people are being thrown into scope cleaning without the proper knowledge and training. I wish certification was required. A lot of my coworkers/facilities aren't taking it serious enough and putting patients at risk. The facility I'm at now allows scopes to sit for long periods of time without any regard to biofilm (my coworker didn't know what that was) and that is very dangerous. They also have nothing in place to test cleaning effectiveness, another thing I wish was required.
41	Two thumbs up
42	YES, I GOT A COMMENT. THIS SURVEY SEEMS LIKE YOU'RE TESTING ME TO SEE HOW WELL I KNOW MY JOB AS A PROCESSOR. I WORKED FOR UOFM FOR 38 YRS. I KNOW MY JOB AND ANY OTHER JOB FOR UOFM. SIGN PAM FERGUSON.

Development of Exam Specifications

The Job Analysis Committee met on July 5, 2022 and July 8, 2022 to review the results of the survey, finalize the knowledge statements that would comprise the next Examination Content Outline, and finalize the content weighting for the examination.

The committee reviewed the demographic results and confirmed that the results matched expectations and impressions of the practitioner population, suggesting that the respondent sample is reflective of the target population.

The committee reviewed the open-ended comments to the question “What knowledge area, if any, do you think is missing from this list?” and the question “Please provide any additional comments here”, and agreed that all these comments have already been addressed and covered by the existing knowledge statements.

The committee reviewed the survey results and each of the 36 knowledge statements. Any statement that did not reach a threshold of percent relevancy 95%, or importance and frequency rating of 3.5, was marked for discussion. The task force specifically discussed each of these areas in turn and based on this discussion elected to either keep the knowledge area or remove it. Below are the statements that were removed based on task force discussion

- K016 Use of sterile sheaths (this is under Endoscope Anatomy and Procedures) removed due to low percent relevancy
- K033 Incident reporting (this is under Documentation) removed due to low Frequency rating

The committee also reviewed the following statement due to low percent relevancy but recognized the wording of this statement was problematic and could be the reason why the rating was low. The committee decided to revise the wording slightly and keep this statement on the exam content outline.

- K023 Cleaning verification tests include borescope. (this is under Handling and Cleaning of Scopes and Accessories)

revised to

- K023 Cleaning verification tests to enhance visual inspection. (this is under Handling and Cleaning of Scopes and Accessories)

The draft content weighting was developed by calculating the criticality value (mean importance rating multiplied by the mean frequency rating) and then determining a percentage weight based on the relative weight of the criticality value for each content area.

See Table 3 for a summary of the draft content weighting determination.

Table 3.

Draft Content Weighting Determination Based on Survey Results.

Knowledge Statements		Mean Criticality	Percentage	# Items
1	Regulations, Standards, Guidelines and Safety	19.35	19%	19
2	Life Sciences	18.13	13%	13
3	Endoscope Anatomy and Procedures	19.64	8%	8
4	Handling and Cleaning of Scopes and Accessories	22.20	22%	22
5	Reprocessing of Scopes and Accessories	22.54	16%	16
6	Documentation	21.32	15%	15
7	Ethics	19.36	6%	6

The committee then reviewed the draft content weighting, discussing any adjustments necessary to align the number of items per content area for adequate content coverage on the assessment.

Decrease domain 1 to 17 items. The updated industry standards (AAMI ST91:2021) were recently published. Candidates need to be more aware of these changes in regulations, guidelines, as well as procedures. 17 items should be enough, and it is a higher number of items compared to past exam specifications.

Decrease domain 2 to 10 items. Life sciences by nature has overlap with domain 3 Endoscope Anatomy, since there is already a section for anatomy, less items are required for Life Sciences.

Increase Domain 5 to 23 items – this section is the core of what endoscope reprocessors do. More weights need to be given to this domain.

Increase Domain 6 to 28 items – this section is the core of what endoscope reprocessors do. More weights need to be given to this section.

Decrease Domain 7 to 4 items because a lot of ethical rules need to follow facility policies and industry regulations which are already covered in domain 1.

Table 4.

Final Content Weighting Determination Based on Task Force Discussion.

Knowledge Statements		# Items
1	Regulations, Standards, Guidelines and Safety	17
2	Life Sciences	10
3	Endoscope Anatomy and Procedures	8
4	Handling and Cleaning of Scopes and Accessories	23
5	Reprocessing of Scopes and Accessories	28
6	Documentation	10
7	Ethics	4

The final Examination Content Outline can be found in Appendix E.

Appendix A

Subject Matter Experts

Job Analysis Committee

NAME	RELEVANT CREDENTIALS	YEARS OF EXPERIENCE	EMPLOYER/ AFFILIATION	GEOGRAPHIC LOCATION
Dan Polenz II	CFER	5-10 years	University of Michigan Hospital	MI
Erik Morgan	CSPDT, CSIS, CSPM	--	Manager of Sterile Processing; Greenville Memorial Hospital	SC
Jessica Hoffmann	CFER	10-20 years	UC Health Anshultz	CO
Kelli Gatlin	CFER	5-10 years	Stonybrook Southampton Hospital	NY
Malinda Elammari	CFER	20-40 years	Healthmark	NC
Margarita Lopez	CFER	20-40 years	Kaiser Permanente	CA

Interviewees

NAME	RELEVANT CREDENTIALS	YEARS OF EXPERIENCE	EMPLOYER/ AFFILIATION	GEOGRAPHIC LOCATION
Erik Morgan	CSPDT, CSIS, CSPM	---	Manager of Sterile Processing; Greenville Memorial Hospital	SC
Jessica Hoffmann	CFER	10-20 years	UC Health Anshultz	CO
Malinda Elammari	CFER	20-40 years	Healthmark	NC

Appendix B

Job Analysis Presentation



Job Analysis

PSI Certification Psychometrics

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Objectives



Develop a description of the profession

- Define the relevant tasks
- Define the relevant knowledge



Develop all other elements for a survey

- Develop background information questions
- Review rating scales



Establish linkages

- Identify meaningful connections between the task and knowledge lists



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Job Analysis Process

1. Prepare Draft Materials
2. Conduct Job Analysis Meeting
3. Conduct Pilot Survey
4. Conduct Live Survey
5. Perform Data Analysis
6. Create Exam Specifications
7. Develop Summary Report



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Introduction



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Purpose of Credentialing Examinations

- To protect the public from harm caused by incompetent professional practice
- To assess professional competence in terms of the knowledge and skills required to successfully perform the tasks associated with the job role
- To establish and apply a consistent standard that reflects the competency level required of practitioners who meet the eligibility requirements
- To provide a valid and reliable means of identifying those who are competent to practice in the profession



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What is a Job Analysis?

“ Procedure to identify the content of a job in terms of activities involved and attributes or requirements needed to perform the activities. ”

This is the primary source of content validity for a credentialing assessment

This is the process by which the Examination Specifications are created

A representative list of knowledge and tasks associated with the job is developed

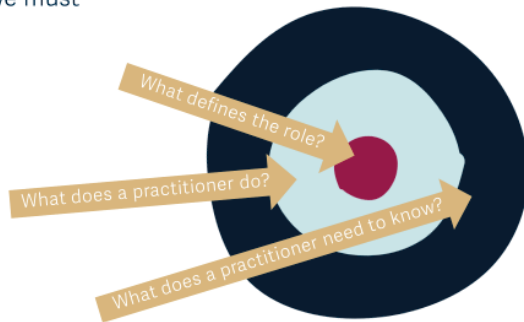


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Multiple Levels of Analysis

To create a comprehensive and accurate representation of the job role, we must identify:

- Target Population
- Tasks Performed
- Knowledge Required



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Terminology

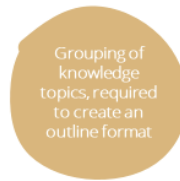
Tasks



Knowledge

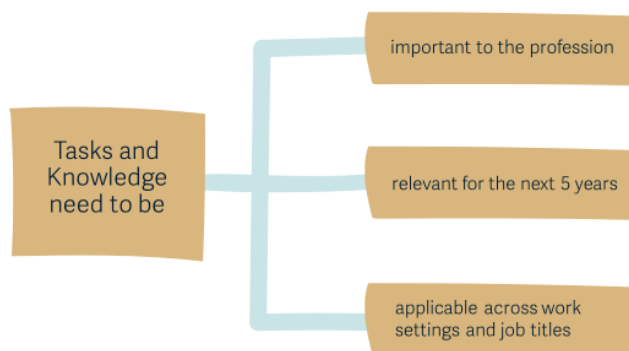


Content Domains (and subdomains)



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Requirements for Tasks and Knowledge



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Rating Scales

Importance

How important is this
[task / knowledge]
to the job role?

0 - Not Relevant
1 - Minimally Important
2 - Somewhat Important
3 - Moderately Important
4 - Very Important
5 - Critically Important

Frequency

How frequently is this
[task performed /
knowledge used]
in the job role?

0 - Not Relevant
1 - Rarely
2 - Seldom
3 - Occasionally
4 - Frequently
5 - Very Frequently



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Why Are You Here?

Subject Matter Experts (SMEs)

You are here to provide your content expertise and your professional experience

Facilitators

We are here to guide you through the process

Client Representatives

You are here to provide additional background information and the certifying body's perspective



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Questions?



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Linkage Process



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Linkage Analysis

Knowledge vs. Task

- The list of Knowledge areas is used to delineate what content will be directly assessed by the exam
- Tasks provide additional context for the application of those knowledge and skills

Purpose of Linkage Analysis

- To establish evidence that the Knowledge areas are applicable to the Tasks
- To determine any potential gaps in either inventory



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Linkage Matrix

- We will identify connections among tasks and knowledge

The Outcome Looks Something Like This

Each linkage represents that the knowledge is required in order to complete the task

	T1	T2	T3	T4	T5
1A1	X				
1A2		X			
1A3		X		X	
1B1			X		
1B2			X		X
1C1				X	
1C2				X	
2A1	X		X		
2A2		X			
2B1			X	X	
2B2		X			
2B3			X	X	X
2B4		X	X		



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Linkage Thought Process

Doesn't everything apply to everything?

- Not exactly

	Grilling	Baking
Knife Techniques	X	-

Consider this example:

- I need knowledge of **Knife Techniques** to **Prepare Ingredients For Grilling**
- I don't need knowledge of **Knife Techniques** to **Mix Baking Ingredients**



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Questions?



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Appendix C

Survey Text

1. Welcome

The purpose of this survey is to identify knowledge topics reflective of the professional role of Certified Flexible Endoscope Reprocessors (CFER). The results of this survey will help develop the specifications for the Certification Board for Sterile Processing and Distribution (CBSPD) Certified Flexible Endoscope Reprocessors (CFER) certification examination.

Your individual responses will be kept confidential and will be combined with those of other respondents. Only staff persons from PSI Services and CBSPD will have access to the data collected. Aggregated data from this survey will be published in a report that summarizes the process used to develop the specifications for the certification exam. For more information about PSI's privacy and data protection policy, please click [here](#).

The survey will likely require 10-15 minutes to complete. You can complete each part of the survey in separate sittings at the same computer. Please be aware that you must completely finish a page before clicking on "Next" to save your responses up to that point. There is no limit on the number of times you can use the link to go back to the survey before clicking on "Done" to submit your survey.

The deadline for completion of the survey is 11 PM (11:00) Eastern Time (UTC-5) on May 31, 2022.

Please direct questions to mailbox@cbspd.net.

* Do you agree to participate in this survey?

Yes

No

2. Filter

* For the purposes of this survey, we define a Certified Flexible Endoscope Re-processor as the following:

Individuals who have demonstrated the knowledge and skills required to pre-clean, leak test, decontaminate, inspect, perform cleaning verification, high level disinfection, package, sterilize, transport, and store endoscopes, in accordance with industry standards, guidelines and regulations, and manufacturers' instructions for use. CFERs are crucial members of the healthcare team who are responsible for care and handling of endoscopes and accessories.

Have you worked as an Endoscope Re-processor in the past 12 months?

Yes

No

if No, why

3. Demographics

* Which job title best describes your most recent experience?

- Endoscopy Clinical Staff
- Endoscopy Leadership
- Endoscopy Educators
- Sterile Processing Staff
- Sterile Processing Leadership
- Sterile Processing Educator
- Other (please specify)

* What is your current work setting?

- Ambulatory Surgery Center
- Clinical Setting/Doctor's Office
- Flexible GI Scope Sales or Service Company
- Non-Teaching Hospital: Less than 200 Beds
- Non-Teaching Hospital: 200 to 400 Beds
- Non-Teaching Hospital: 401 to 800 Beds
- Non-Teaching Hospital: More than 800
- Teaching Hospital: Less than 200 Beds
- Teaching Hospital: 200 to 400 Beds
- Teaching Hospital: 401 to 800 Beds
- Teaching Hospital: More than 800 Beds
- Other (please specify)

* How many years of experience do you have reprocessing flexible endoscopes? *(Please enter a whole number. Decimals, percentages, and non-numeric characters are not accepted)*

* What certifications and/or licenses do you presently hold?

- OR Surgical Technologist
- Certified Sterile Processing and Distribution Technician (CSPDT)/Certified Registered Central Service Technician (CRCST)
- Certified Surgical Instrument Specialist (CSIS)/Certified Instrument Specialist (CIS)
- Certified Flexible Endoscope Reprocessor (CFER)/Certified Endoscope Reprocessor (CER)
- Certified Sterile Processing Management (CSPM)/Certified Healthcare Leader (CHL)
- None
- Other (please specify)

In which location do you primarily work?

4. Knowledge

Please read through the list of knowledge areas below and use the following rating scales to indicate your responses to each one.

- **Frequency** - How frequently do you use this knowledge?
- **Importance** - How important is this knowledge to your job role?

* Regulations, Standards, Guidelines and Safety

	Frequency	Importance
OSHA (e.g., PPE, Blood Borne Pathogens including Standard Precautions, transport of soiled scopes and accessories, biohazard waste removal, Hazard communication, Safety Data Sheets, eyewash stations).	<input type="text"/>	<input type="text"/>
FDA (e.g., Medical Device Reporting; Compliance with Manufacturer's Instructions for Use)	<input type="text"/>	<input type="text"/>
EPA regulations	<input type="text"/>	<input type="text"/>
HIPAA	<input type="text"/>	<input type="text"/>
Standards: AAMI ST91, ST79, ST58; Guidelines: AORN, CDC (Spaulding Classification), ASGE, Multi-Society Guideline, SGNA.	<input type="text"/>	<input type="text"/>
Accreditation agencies (e.g., The Joint Commission, AAAHC).	<input type="text"/>	<input type="text"/>
Environmental safety (e.g., fire safety, electrical safety, patient emergency equipment including location and operation, waste management).	<input type="text"/>	<input type="text"/>

* Life Sciences

	Frequency	Importance
Types of microorganisms that pertain to GI/Endo (bacteria, virus, fungus, prions).	<input type="text"/>	<input type="text"/>
Disease transmission (i.e., biofilm formation, bioburden).	<input type="text"/>	<input type="text"/>
Anatomy and physiology as related to GI and pulmonary body systems.	<input type="text"/>	<input type="text"/>
Medical terminology, signs, and symbols.	<input type="text"/>	<input type="text"/>
Medical procedures involving flexible scopes.	<input type="text"/>	<input type="text"/>

* Endoscope Anatomy and Procedures

	Frequency	Importance
Anatomy of various flexible endoscopes.	<input type="text"/>	<input type="text"/>
Scope function (use of scopes) Includes knowledge of various types of scopes.	<input type="text"/>	<input type="text"/>
Reusable and single-use accessories (e.g., snares, water bottles, valves, buttons, and water resistant caps biopsy forceps, etc.)	<input type="text"/>	<input type="text"/>
Use of sterile sheaths.	<input type="text"/>	<input type="text"/>

5. Copy of page: Knowledge

Please read through the list of knowledge areas below and use the following rating scales to indicate your responses to each one.

- **Frequency** - How frequently do you use this knowledge?
- **Importance** - How important is this knowledge to your job role?

* Handling and Cleaning of Scopes and Accessories

	Frequency	Importance
Prevention of cross contamination (e.g., design of endoscopy reprocessing area, work flow, traffic control, separation of clean/dirty).	<input type="text"/>	<input type="text"/>
Point of use treatment and transport of contaminated endoscopes including reusable accessories.	<input type="text"/>	<input type="text"/>
Inspection for visible soils, damage to scopes and reusable accessories.	<input type="text"/>	<input type="text"/>
Leak testing procedures: duration, methods of testing, actions to take with a failed leak test.	<input type="text"/>	<input type="text"/>
Selection and use of cleaning chemicals (e.g., pH, concentration, temperature, action of chemical, rinsing, and water quality).	<input type="text"/>	<input type="text"/>
Cleaning methods (manual and mechanical), cleaning implements (e.g., brushes) and equipment (e.g., automated flushing systems, automated endoscope reprocessors), delayed reprocessing.	<input type="text"/>	<input type="text"/>
Cleaning verification tests include borescope.	<input type="text"/>	<input type="text"/>

* Reprocessing of Scopes and Accessories

	Frequency	Importance
High-level disinfection methods (e.g., manual, mechanical, AER).	<input type="text"/>	<input type="text"/>
Use of high-level disinfectants and liquid chemical sterilant (e.g., exposure time, temperature, rinsing, water quality, shelf life vs. use life of HLDs)	<input type="text"/>	<input type="text"/>
High-level disinfection chemical testing includes minimum effective concentration (MEC) and minimum recommended concentration testing (MRC), quality control testing of test strips, topping off solutions.	<input type="text"/>	<input type="text"/>
Post disinfection procedures, drying, labeling, and dating	<input type="text"/>	<input type="text"/>
Storage of HLD or sterilized scopes and accessories.	<input type="text"/>	<input type="text"/>

6. Copy of page: Knowledge

Please read through the list of knowledge areas below and use the following rating scales to indicate your responses to each one.

- **Frequency** - How frequently do you use this knowledge?
- **Importance** - How important is this knowledge to your job role?

* Documentation

	Frequency	Importance
Required or recommended orientation, training, and competency verification for all scopes, leak testing, flushing devices, cleaning verification, HLDs, etc.	<input type="text"/>	<input type="text"/>
Cleaning and high-level disinfection protocols.	<input type="text"/>	<input type="text"/>
Leak testing and chemical disinfection efficacy testing (MEC/MRC testing), quality assurance testing of HLD test strips.	<input type="text"/>	<input type="text"/>
Traceability to the patient.	<input type="text"/>	<input type="text"/>
Incident reporting.	<input type="text"/>	<input type="text"/>
Cleaning effectiveness testing (products and usage).	<input type="text"/>	<input type="text"/>

* Ethics

	Frequency	Importance
Compliance with regulatory standards, best practices, procedures, and/or guidelines that have an impact on patient, employee or environmental safety; reporting instances of non-compliance.	<input type="text"/>	<input type="text"/>
Professional behavior (e.g., non-compliance with dress code, disruptive behavior, theft, willful damage to equipment/property, sexual harassment/workplace violence in ethics).	<input type="text"/>	<input type="text"/>

What knowledge area, if any, do you think is missing from this list?

7. Comment Box

For the purposes of this survey, we define the Flexible Endoscope Re-processors as the following:

Individuals who have demonstrated the knowledge and skills required to pre-clean, leak test, decontaminate, inspect, perform cleaning verification, high level disinfection, package, sterilize, transport, and store endoscopes, in accordance with industry standards, guidelines and regulations, and manufacturers' instructions for use. CFERs are crucial members of the healthcare team who are responsible for care and handling of endoscopes and accessories.

Based on this definition, how well do you feel this survey covered the knowledge and tasks related to this profession?

- Completely
- Adequately
- Inadequately (please specify why)

Please provide any additional comments here.

Once you are finished, please be sure to click Done to submit the survey.

Appendix D

Survey Invitation Email

DATE:	April 28, 2022
SUBJECT:	CBSPD CFER Job Analysis Survey 2022
BODY:	<p>The purpose of this survey is to identify knowledge topics reflective of the professional role of Certified Flexible Endoscope Reprocessors (CFER). The results of this survey will help develop the specifications for the Certification Board for Sterile Processing and Distribution (CBSPD) Certified Flexible Endoscope Reprocessors (CFER) certification examination.</p> <p>Your individual responses will be kept confidential and will be combined with those of other respondents. Only staff persons from PSI Services and CBSPD will have access to the data collected. Aggregated data from this survey will be published in a report that summarizes the process used to develop the specifications for the certification exam. For more information about PSI's privacy and data protection policy, please click here: https://www.psionline.com/privacy/privacy-policy/.</p> <p>The survey will likely require 5-10 minutes to complete. You can complete each part of the survey in separate sittings at the same computer. Please be aware that you must completely finish a page before clicking on "Next" to save your responses up to that point. There is no limit on the number of times you can use the link to go back to the survey before clicking on "Done" to submit your survey.</p> <p>The deadline for completion of the survey is 11 PM (11:00) Eastern Time (UTC-5) on May 31, 2022.</p> <p>Please direct questions to mailbox@cbspd.net.</p>

Appendix E

Exam Content Outline

Name of Credential	Certified Flexible Endoscope Reprocessor (CFER)
Name of Certifying Body	Certification Board for Sterile Processing and Distribution
Designation Awarded	CFER
Target Population	Personnel performing reprocessing functions for flexible endoscopes and accessories
Level of Proficiency	Entry level
Scoring Method	Objectively Scored; Number Correct
Decision Outcome Method	Single Hurdle
Number of Test Portions	1
Total Number of Items	120
Number of Scored Items	100
Number of Pretest Items	20
Administration Time	150 Minutes
Year ECO Created	2022
Additional Information	

1	Regulations, Standards, Guidelines and Safety	17
A	OSHA (e.g., PPE, Blood Borne Pathogens including Standard Precautions, transport of soiled scopes and accessories, biohazard waste removal, Hazard communication, Safety Data Sheets, eyewash stations).	
B	FDA (e.g., Medical Device Reporting; Compliance with Manufacturer's Instructions for Use).	
C	EPA regulations.	
D	HIPAA.	
E	Standards: AAMI ST91, ST79, ST58; Guidelines: AORN, CDC (Spaulding Classification), ASGE, Multi-Society Guideline, SGNA.	
F	Accreditation agencies (e.g., The Joint Commission, AAAHC).	
G	Environmental safety (e.g., fire safety, electrical safety, patient emergency equipment including location and operation, waste management).	
2	Life Sciences	10
A	Types of microorganisms that pertain to GI/Endo (bacteria, virus, fungus, prions).	
B	Disease transmission (i.e., biofilm formation, bioburden).	
C	Anatomy and physiology as related to GI and pulmonary body systems.	
D	Medical terminology, signs, and symbols.	
E	Medical procedures involving flexible scopes.	
3	Endoscope Anatomy and Procedures	8
A	Anatomy of various flexible endoscopes.	
B	Scope function (use of scopes) including knowledge of various types of scopes.	
C	Reusable and single-use accessories (e.g., snares, water bottles, valves, buttons, and water-resistant caps biopsy forceps, etc.).	
4	Handling and Cleaning of Scopes and Accessories	23
A	Prevention of cross contamination (e.g., design of endoscopy reprocessing area, workflow, traffic control, separation of clean/dirty).	
B	Point of use treatment and transport of contaminated endoscopes including reusable accessories.	
C	Inspection for visible soils, damage to scopes and reusable accessories.	
D	Leak testing procedures: duration, methods of testing, actions to take with a failed leak test.	
E	Selection and use of cleaning chemicals (e.g., pH, concentration, temperature, action of chemical, rinsing, and water quality).	
F	Cleaning methods (manual and mechanical), cleaning implements (e.g., brushes) and equipment (e.g., automated flushing systems, automated endoscope reprocessors), delayed reprocessing.	
G	Cleaning verification tests to enhance visual inspection.	

5	Reprocessing of Scopes and Accessories	28
A	High-level disinfection methods (e.g., manual, mechanical, AER).	
B	Use of high-level disinfectants and liquid chemical sterilant (e.g., exposure time, temperature, rinsing, water quality, shelf life vs. use life of HLDs).	
C	High-level disinfection chemical testing including minimum effective concentration (MEC) and minimum recommended concentration testing (MRC), quality control testing of test strips, topping off solutions.	
D	Post disinfection procedures, drying, labeling, and dating.	
E	Storage of HLD or sterilized scopes and accessories.	
6	Documentation	10
A	Required or recommended orientation, training, and competency verification for all scopes, leak testing, flushing devices, cleaning verification, HLDs, etc.	
B	Cleaning and high-level disinfection protocols.	
C	Leak testing and chemical disinfection efficacy testing (MEC/MRC testing), quality assurance testing of HLD test strips.	
D	Traceability to the patient.	
E	Cleaning effectiveness testing (products and usage).	
7	Ethics	4
A	Compliance with regulatory standards, best practices, procedures, and/or guidelines that have an impact on patient, employee or environmental safety; reporting instances of non-compliance.	
B	Professional behavior (e.g., noncompliance with dress code, disruptive behavior, theft, willful damage to equipment/property, sexual harassment/workplace violence in ethics).	



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