# Certified Endoscope Reprocessor (CER) Exam Content Outline

**Revised May 2022**

HSPA

The CER Exam Content Outline was created through the 2021-2022 job task analysis and outlines the specific areas of knowledge necessary to perform the duties of an Healthcare Leader. The Content Outline also details the percentage weight for each of the four sections which comprise the CER Exam. The higher the percentage weight, the more heavily the questions in that area will affect your overall test score.

## SECTION 1: MICROBIOLOGY AND INFECTION CONTROL (PERCENTAGE WEIGHT 12%)

### I. MICROBIOLOGY AND INFECTION CONTROL

A. Pathogenic and non-pathogenic/ low-concern and high-concern microorganisms.
B. Formation and prevention of biofilms (e.g., avoid delays in processing).
C. Environmental cleaning and surface disinfection.
D. Chain of infection.
E. Spaulding Classification system.
F. Hygiene (e.g., hand hygiene, attire, personal protective equipment [PPE]).
G. Quality assurance systems (e.g., air exchange rates, quality assurance checks, routine cleaning of scope cabinets, risk assessments, rapid soil indicator).

## SECTION 2: ENDOSCOPE PURPOSE, DESIGN AND STRUCTURE (PERCENTAGE WEIGHT 10%)

### II. ENDOSCOPE PURPOSE, DESIGN AND STRUCTURE

A. Benefits of endoscopic procedures (e.g., diagnostic, therapeutic, minimally invasive).
B. Endoscope categories (e.g., flexible, semi-rigid, rigid).
C. Endoscope anatomy and components (e.g., biopsy and auxillary channels, fiber-optics, ultrasonic transducer).
D. Processing challenges related to design (e.g., complexity, elevator channel).
E. Endoscope types (e.g., gastroscopes, cystoscopes, arthroscopes, disposable/single use) and related procedures.
F. Endoscope accessories (e.g., valves, biopsy forceps, dilators, flush tubing, venting caps).

## SECTION 3: WORK AREA DESIGN (PERCENTAGE WEIGHT 12%)

### III. WORK AREA DESIGN

A. Workflow design (e.g., soiled to clean).
B. Environmental requirements (e.g., airflow, water quality, eyewash station, dedicated handwashing sink).
C. Cross-contamination (e.g., work practice controls, spatial separation, unidirectional workflow).
D. Personal protective equipment (PPE) location.
E. Decontamination/ processing area requirements (e.g., sink size, number of sinks, work stations).
F. High-level disinfection (HLD)/ sterilization area requirements (e.g., restricted area).
G. Storage area requirements (e.g., low traffic, storage of chemistries and hazardous materials).

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## SECTION 4: ENDOSCOPE PROCESSING STEPS (PERCENTAGE WEIGHT 32%)

### IV. MICROBIOLOGY AND INFECTION CONTROL

A. Point-of-use care.
B. Transportation of soiled endoscopes (e.g., containers meeting Occupational Safety and Health Administration [OSHA] requirements).
C. Initial visual inspection (e.g., lighted magnification).
D. Leak testing (e.g., manual, automated, computerized, dry, wet, modified steps for processing damaged scopes).
E. Breach in process (e.g., failed leak test, damaged endoscope protocol, communication).
F. Manual cleaning (e.g., exterior wiping, enzymatic/ detergent soak and flush, brushing with appropriate brush, submersion requirements).
G. Rinsing (e.g., manual, automated).
H. Extended soak indications and requirements (e.g., delayed processing).
I. Quality testing for cleaned endoscopes (e.g., internal and external visual inspection, verification of cleaning process).
J. Manual high-level disinfection (HLD).
K. Automated endoscope reprocessors (AERs).
L. Drying processes (e.g., alcohol flush, air purge, air pressure, drying verification).
M. Factors influencing the high-level disinfection (HLD) process (e.g., expired disinfectant, expired strips, diluted disinfectant, temperature).
N. Preparation for sterilization (e.g., venting caps).
O. Sterilization packaging methods.
P. Sterilization methods (e.g., high and low temperature, liquid chemical sterilization).
Q. Sterilizer loading and unloading.
R. Sterilization quality assurance (e.g., biological, chemical, mechanical indicators).
S. Factors influencing the sterilization process (e.g., time, process, temperature).
T. Documentation requirements for high-level disinfection (HLD) and sterilization.
U. Recall process (e.g., positive Biological Indicator [BI], failed solution test strip, manufacture recall).

## SECTION 5: ENDOSCOPE HANDLING, TRANSPORT AND STORAGE (PERCENTAGE WEIGHT 16%)

### V. ENDOSCOPE HANDLING, TRANSPORT, AND STORAGE

A. Proper handling techniques.
B. Storage requirements (e.g., cleaning, airflow, space).
C. Accessories (e.g., reusable/ disposable, valves, caps).
D. Types of storage systems (e.g., vertical, horizontal, airflow hook-ups).
E. Hang time (e.g., risk assessment, expiration dating).
F. Transportation of processed endoscopes (e.g., from processing to cabinet, cabinet to point-of-use, distinct visual cue indicating ready for use).

## SECTION 6: ENDOSCOPE TRACKING, REPAIR AND SYSTEM MAINTENANCE (PERCENTAGE WEIGHT 10%)

### VI. ENDOSCOPE TRACKING, REPAIR AND SYSTEM MAINTENANCE

A. Required processing documentation for endoscopes (e.g., patient to endoscope).
B. Other processing documentation (e.g., high-level disinfection [HLD] logs, minimum effective concentration [MEC]/ minimum recommended concentration [MRC], filter changes, preventive maintenance [PM]).
C. Routine equipment checks (e.g., drain filters, leak tester, flush pumps).
D. Requirements for shipping damaged endoscopes.
E. Tracking repairs and loaned endoscopes.
F. Common repair issues and damage prevention strategies.

## SECTION 7: HUMAN FACTORS THAT IMPACT ENDOSCOPE SYSTEMS (PERCENTAGE WEIGHT 8%)

### VII. HUMAN FACTORS THAT IMPACT ENDOSCOPE SYSTEMS

A. The human impact on endoscope processing systems (e.g., ethics and accountability, fatigue).
B. Common processing errors and omissions (e.g., missed steps, prioritization).
C. Staff requirements (e.g., minimum staffing, workload).
D. Communication (e.g., manufacturer's instructions for use [IFUs]/ recalls, process changes, chain of command, recognizing and reporting unusual events).
E. Audits (e.g., frequency, direct observation, documentation).
F. Education, training, and competencies (e.g., Occupational Safety and Health Administration [OSHA], Centers for Medicare and Medicaid Services [CMS], Association of periOperative Registered Nurses [AORN], Society of Gastroenterology Nurses and Associates [SGNA], Association for the Advancement of Medical Instrumentation [AAMI]).
G. Safety (e.g., chemicals, biohazards, safe work environment, ergonomics).