SPECIAL REVIEW:
Korean Society of Gastrointestinal Endoscopy "Accreditation of Qualified Endoscopy Unit" Guideline: Update 2019

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Accredited Endoscopy Unit Program of Korea: Overview and Qualification

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The Korean Society of Gastrointestinal Endoscopy introduced the Accredited Endoscopy Unit Program to enhance endoscopy unit quality through systematic quality management in 2012. It was gradually expanded from training hospitals to institutions with 100+ beds, and the criteria for certification were applied according to the actual conditions of each institution. On the basis of the continuous communication with the institutions and feedback, the Accredited Endoscopy Unit Program certification criteria were revised in 2019 and introduced as follows: (1) the qualification criteria for endoscopy doctors and nurses; (2) facilities and equipment; (3) endoscopic examination process; (4) performance; (5) disinfection and infection control; and (6) endoscopic sedation. The assessment items consist of essential and recommended items. All essential items must be met for accreditation to be awarded. The assessment criteria for each evaluation area were revised as follows: (1) upgrading assessment criteria; (2) qualification of endoscopists and reinforcement of quality control education; (3) detailed standards for safety, disinfection, endoscopic sedation, and management instructions; and (4) presentation of new performance measurement of endoscopy and colonoscopy. **Clin Endosc 2019;52:426-430**

Key Words: Endoscopy; Quality; Unit; Accreditation

INTRODUCTION

The Korean Society of Gastrointestinal Endoscopy (KSGE) introduced the Accredited Endoscopy Unit Program to enhance the quality of endoscopy units through systematic quality management. Accredited endoscopy units are certified by KSGE to perform high-quality endoscopy practices. The important factors required to deliver the best endoscopy practice are as follows:

(1) Credentialing of endoscopy staff.

(2) Are the institutions following the guidelines for safety, endoscope disinfection, and endoscopic sedation as their unit policies as recommended by the KSGE?

(3) Do the endoscopy staff follow the standardized endoscopy procedures and assess their performance to meet the performance criteria?

(4) Continuous quality improvement activities

The system was introduced in 2012 at the level of an endoscopy specialist training hospital but was gradually expanded to institutions with having more than one hundred in-patient beds in 2014. It has now certified endoscopy units in more than 200 institutions, including more than 80 training hospitals. The criteria for certification must be revised on the basis of the actual conditions of each institution. On the basis of continuous communication with the site and feedback, the criteria for assessment of certification of the accredited endoscopy unit were revised in 2019 and will be introduced.

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OVERVIEW OF EVALUATION AREA

The six evaluation areas of the accredited endoscopy unit program are as follows:

(1) Qualification of endoscopists
(2) Facilities and equipment
(3) Process
(4) Performance
(5) Disinfection and infection control
(6) Endoscopic sedation

The assessment items are composed of mandatory and recommended items (Table 1). All mandatory items must be met for accreditation to be awarded. The program must be recertified every 3 years after the initial certification.

ASSESSMENT CATEGORY: QUALIFICATION OF ENDOSCOPISTS (Table 2)

Mandatory items **9 items**

Required personnel for endoscopy: 1 item

1. Each endoscopy examination room must have at least one endoscopy physician and nursing staff. Endoscopy personnel must meet all certification assessment criteria.

Qualification of endoscopists: 1 item

1. More than 50% of endoscopy doctors should be KSGE board-certified endoscopy specialists. The remaining doctors should have experience with >1,000 cases of upper gastrointestinal endoscopy and 150 cases of colonoscopy. In case of a change in endoscopy physician at the time of re-certification evaluation, the criteria for assessment should be met for the initial certification.

Rationale: Upper gastrointestinal (GI) endoscopy and colonoscopy must be performed by licensed physicians to ensure diagnostic accuracy and patient safety. It is necessary to set appropriate qualification standards for physicians who perform upper GI endoscopy. Supportive data on the appropriate endoscopy treatment experience to gain competency or qualification are inadequate (Table 3). We can say that qualified endoscopy can be implemented only by an endoscopist who has a certain amount of experience at a training hospital with a qualified education supervisor. The KSGE recommends the performance of over 1,000 cases of upper GI endoscopy under the guidance of an instructor during the training period as a prerequisite for endoscopy specialist board certification by KSGE.[1] The recommendations of the Japanese Society of Gastrointestinal Endoscopy[2] and American Society of Gastrointestinal Endoscopy[3] for ensuring competency are different from those of the KSGE. According to the quality guidelines for the national gastric cancer screening program in Korea, an endoscopy experience of at least 500 cases is strongly recommended for participation in the national gastric cancer screening program.[4]

Colonoscopy is an invasive procedure that can lead to complications, and differences in intubation success and diagnostic rates may result from practitioner competency.[5] Some studies have reported differences in the detection rate of colorectal adenoma among practitioners and that the risk of overlooking colorectal cancer may vary depending on course content or majors of the training curriculum the practitioners completed.[6,7] KSGE recommends the performance of over 150 cases of colonoscopy under the guidance of an instructor during the training period as a prerequisite for colonoscopists.[1] To participate in the national colon cancer screening program, physicians should perform more than 150 colonoscopies in supervised training sessions for 1 year.[8] If a physician has not received endoscopy training, an experience of performing a minimum of 300 successful colonoscopies is required to con-

Table 1. Number of Assessment Items for Each Evaluation Area

Evaluation area	Mandatory items	Recommended items
Qualification of endoscopists	9	1
Facilities and equipment	16	7
Process	19	1
Performance	10	4
Disinfection and infection control	28	0
Endoscopic sedation	12	5

duct a national colon cancer screening.[8] In contrast, the Accredited Endoscopy Unit Program requires most physicians to undergo training for more than 1 year with a supervisor and endoscopy specialist board certified by the KSGE.

Maintenance/continuing education of endoscopists (re-accreditation): 4 items

1. All endoscopy physicians should complete train-

Table 2. Accreditation of Qualified Endoscopy Unit Assessment Items in Category: Qualification of Endoscopists

Category	AQEU assessment items
	Mandatory items (9 items)
Required personnel for endoscopy (1 item)	1. Each endoscopy examination room must have at least one endoscopy physician and nursing staff. Personnel for endoscopy must meet all certification assessment criteria.
Endoscopist qualifications (1 item)	1. More than 50% of endoscopy doctors should be KSGE board-certified endoscopy specialists. The remaining doctors should have experience with >1,000 cases of upper gastrointestinal endoscopy and 150 cases of colonoscopy. In case of a change in endoscopy physician at the time of the re-certification evaluation, the initial certification assessment criteria should be met.
Maintaining endoscopist quality (4 items)	1. All endoscopy physicians should complete training courses related to the use of endoscopes with a score of ≥18 in the last 3 years. 2. All endoscopy physicians should complete training courses related to endoscopy quality controls with a score of ≥6 in the last 3 years. 3. During the 3-year accreditation period, all upper gastrointestinal endoscopy physicians should perform at least 200 upper gastroscopies per year or the corresponding number of upper gastrointestinal therapeutic endoscopies. 4. During the 3-year accreditation period, all colonoscopists should perform at least 100 colonoscopies per year or the equivalent number of therapeutic colonoscopies.
Education of endoscopy nurses (2 items)	1. All endoscopy nursing staff must participate in regular maintenance training programs organized by the Korean Society for Gastrointestinal Endoscopy and the Korean Nurse Society for Gastrointestinal Endoscopy at least once every 3 years. 2. New endoscopy nursing staff must complete the training program before participating in endoscopic examinations.
Education of new endoscopy nurses (1 item)	1. An education program should be provided when new endoscopy equipment and devices are introduced.
	Recommended item (1 item)
Nursing staff in recovery room (1 item)	1. It is recommended that at least one nurse be present for each 10 beds in the recovery room.

AQEU, accreditation of qualified endoscopy unit; KSGE, Korean Society of Gastrointestinal Endoscopy.

Table 3. Comparison of Qualification Requirements (Certification or Minimum Number of Endoscopy Procedures)

	Minimum number of upper gastrointestinal endoscopies required for qualification
Accredited Endoscopy Unit (certified by KSGE)	More than 50% of doctors should be endoscopy specialists. The remaining doctors should have experience performing >1,000 cases of upper gastrointestinal endoscopy and 150 cases of colonoscopy
Board certified by KSGE[1]	More than 1,000 cases of supervised endoscopy during the training period
Board certified by the Japanese Society of Gastrointestinal Endoscopy[2]	Extensive endoscopy experience (e.g., >500 upper gastrointestinal endoscopies, 250 colonoscopies, and 20 endoscopy treatments) over the previous 5 years
Competency assessment by the American Society of Gastrointestinal Endoscopy[3]	A minimum of 130 upper gastrointestinal endoscopy procedures, including 25 for the treatment of nonvariceal hemorrhage and 20 for the treatment of variceal hemorrhage
Quality guidelines for the national gastric cancer screening program (Korea National Cancer Center)[4]	More than 500 cases of supervised endoscopy

KSGE, Korean Society of Gastrointestinal Endoscopy.

ing courses related to the use of endoscopes with a score of ≥18 in the last 3 years.

2. All endoscopy physicians should complete training courses related to endoscopy quality controls with a score of ≥6 in the last 3 years.

3. During the 3-year period of accreditation, all upper gastrointestinal endoscopy physicians should perform at least 200 upper gastroscopies per year or the corresponding number of upper gastrointestinal therapeutic endoscopies.

4. During the 3-year accreditation period, all colonoscopists should perform at least 100 colonoscopies per year or the equivalent number of therapeutic colonoscopies.

Rationale: From various studies conducted in Korea, it is well known that endoscopic examination proficiency and completion rate are correlated with endoscopist experience. Although the actual number of procedures performed does not necessary prove the endoscopist's skills, a minimum number of performed procedures is required for the assessment of proficiency and other performance indicators. The European Guidelines for Quality Assurance in Colorectal Cancer Screening and Diagnosis recommends that endoscopists participating in colorectal cancer screening programs should have experience performing at least 300 cases of colonoscopy per year,[9] while the British Quality Assurance Guidelines for Colonoscopy requires that at least 100 procedures be performed each year to maintain colonoscopy proficiency.[10] These represent minimum requirements for assessing endoscopist proficiency, and these guidelines recommend that the number of endoscopic procedures performed per year by each endoscopist be recorded. The standards for the number of endoscopy procedures performed per year recommended in various guidelines have a low quality of evidence and were proposed based on expert opinions. Accordingly, the standards being applied in Korea are also based on expert opinions, with the Quality Management Committee of the KSGE recommending 200 cases of upper GI endoscopy and 100 cases of colonoscopy per year.

Education of endoscopy nurses: 2 items

1. All endoscopy nursing staff must participate in regular maintenance training programs organized by the KSGE and the Korean Nurse Society for Gastrointestinal Endoscopy at least once every 3 years.

2. New endoscopy nursing staff must complete the training program before participating in endoscopic examinations.

Rationale: Endoscopy nursing personnel should have professional endoscopy knowledge and skills. Endoscopy nursing personnel should properly manage the instruments, equipment, and samples used in endoscopes and understand the basic knowledge of infection for its prevention and management. Therefore, a certain amount of pre-training time is required for endoscopy nursing personnel, who play an important role throughout the endoscopy procedure, and a program that is effectively configured for proper education is necessary. These training periods and programs should have established regulations for each institution, and the contents of the pre-training program should include understanding of endoscopy procedures and complications, nursing management for endoscopy examinees, infection control, and sedation management.

Education about new endoscopy devices: 1 item

1. An education program should be provided when new endoscopy equipment and devices are introduced.

Recommended item	1 item

Nursing staff in recovery room: 1 item

1. It is recommended that at least one nurse in the recovery room works on every 10 beds in the recovery room.

CONCLUSIONS

The six evaluation areas of the Accredited Endoscopy Unit Program are the qualification criteria for endoscopy doctors and nurses, facilities and equipment, endoscopy examination process, performance, disinfection and infection control, and endoscopic sedation. The assessment criteria for each evaluation area have been revised as follows: (1) upgrading assessment criteria; (2) qualification of endoscopists and reinforcement of quality control education; (3) detailed standards for safety, disinfection, endoscopic sedation, and management instructions are prepared; and (4) presentation of new perfor-

mance measurement of endoscopy and colonoscopy. In this program, the credentialing of endoscopists requires that the endoscopist has specialized endoscopy training or performs a minimum number of procedures to demonstrate their competency. In addition, continuous education about endoscopy procedures and quality is required for unit staff.

Conflicts of Interest

The authors have no financial conflicts of interest.

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