European Society of Gynaecological Oncology expanded quality indicators and accreditation for cervical cancer management

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Although the incidence of cervical cancer in Europe is declining it remains a major public health problem, particularly in limited-resourced countries, with wide variations in regional and national management. Cervical cancer is still the leading cause of cancer-related death in women in eastern, western, middle, and southern Africa.[1] In East Europe it is the most frequent cause of cancer death in women aged less than 44 years.[2] The WHO recently launched a cervical cancer elimination initiative, aiming to reduce its global incidence, from currently 13/100 000/year to less than 4/100 000 by the end of the century.[1 3 4]

As part of its mission to improve the quality of care for women with gynecological cancers across Europe, the European Society of Gynaecological Oncology (ESGO) aims to notably establish multidisciplinary standards for training and care, to develop a set of quality indicators for the management of gynecological cancers, and to act as the European authority in the field of gynecological oncology. The ESGO quality indicators facilitate the documentation of quality of care, the comparison of performance structures, and the establishment of organizational priorities as a basis for accreditation in European countries.

ESGO has previously launched a hospital accreditation program based on ESGO quality indicators to assess adherence to European standards of care as established by ESGO through its evidence-based clinical practice guidelines. This accreditation program aims to evaluate the quality of surgery and to play an essential political role in the centralization of care for women with gynecological cancers. ESGO accreditation is awarded to institutions that offer patients the specific skills, experience, organization, and dedication required to achieve optimal levels of surgical care. The intention is incentive, not punitive. Certified centers can make the award known to doctors, patients, patient advocacy groups, and lay persons.

ESGO hospital accreditation programs in advanced ovarian and endometrial cancer surgery have already been launched and centers interested in being accredited can start the accreditation process online using the following link: https://esgo.org/explore/esgo-accreditation/. Centers receiving ESGO accreditation are entitled to:

- Use the subtitle 'ESGO accredited center in Endometrial and/or Ovarian cancer surgery' (depending on the accreditation process followed/completed)
- Use the ESGO Accredited Center logo in its endometrial and/or ovarian cancer-related communication
- Be listed on the ESGO website as an ESGO accredited center.

As a continuation of this effort to improve overall quality of care for gynecological cancer patients, an ESGO accreditation program has been initiated in cervical cancer.

ESGO has defined and established a list of quality indicators for optimizing and ensuring the quality of surgical care essential to improving the management and outcomes of patients with cervical cancer.[5] With regard to the major role of radiotherapy in the management of this disease, ESGO and the European Society for Radiotherapy and Oncology (ESTRO) collaborated to extend the quality indicators to include aspects of radiation therapy management. This was done to give practitioners and administrators a quantitative basis to improve care and organizational processes notably for recognition of the increased complexity of modern external radiotherapy and brachytherapy techniques. The extended quality indicators aim to homogenize treatment across Europe and beyond, to minimize treatment related morbidity and complications, and to develop an accreditation program for cervical cancer management.[6 7]

A list of 29 quality indicators has been defined, including 11 general indicators (Table 1), 11 indicators for radiation therapy (Table 2), and seven indicators dedicated to surgical management (Table 3). Quality indicators 1 to 11 are related to center case load, training, experience of the surgeon, time to treatment, and the overall management including active participation in clinical trials, the decision-making process within a structured multidisciplinary

Table 1 General indicators

Quality indicator 1: Treatment decisions discussed at a multdisciplinary team meeting	
Type	Process indicator
Description	The decision for any therapeutic intervention (excluding any diagnostic procedure, that is, biopsies or conization performed with a diagnostic intent) has been taken by a multidisciplinary team including at least a gynecologic oncologist or a trained surgeon specifically dedicated to gynecological cancer (see quality indicator 2), a radiologist, a radiation oncologist, a medical or clinical oncologist, and a pathologist
Specifications	*Numerator*: number of patients with cervical cancer for whom the decision for any therapeutic intervention has been made by a multidisciplinary team *Denominator*: all patients presenting with cervical cancer
Target	≥95%*
Quality indicator 2: Surgery performed or supervised by a certified gynecologic oncologist or a trained surgeon dedicated to gynecological cancer	
Type	Process indicator
Description	Surgery is performed or supervised by a certified gynecologic oncologist or by a trained surgeon dedicated to gynecological cancer (accounting for over 80% of his or her practice) or having completed an ESGO-accredited fellowship
Specifications	*Numerator*: number of patients with cervical cancer operated by a surgical specialist (as defined above) *Denominator*: number of patients undergoing surgery for cervical cancer
Target	100%
Quality indicator 3: Number of hysterectomies and trachelectomies for invasive cervical cancer performed per center per year	
Type	Structural indicator
Description	These procedures include radical hysterectomies and radical trachelectomies where eligible and simple hysterectomies/trachelectomies where eligible
Specifications	*Numerator*: number of hysterectomies (radical and simple) and trachelectomies (radical and simple) performed per center per year *Denominator*: not applicable
Targets	Optimal target: ≥30 Minimum required target: ≥15
Quality indicator 4: Time to primary radiotherapy less than 6 weeks from the date the patient is referred for the first time to the center	
Type	Outcome indicator
Description	Time between referral to the center and initiation of primary radiotherapy treatment
Specifications	*Numerator:* number of cervical cancer patients who start their primary radiotherapy treatment within 6 weeks from the date the patient is referred for the first time to the center *Denominator:* all patients with cervical cancer treated with primary radiotherapy treatment
Targets	Optimal target: ≥90% Minimum required target: ≥75%
Quality indicator 5: Number of patients treated with external beam radiotherapy plus brachytherapy per center per year	
Type	Structural indicator
Description	A minimum number of patients treated per year per center with external beam radiotherapy (and/or concurrent chemotherapy) plus brachytherapy.
Specifications	*Numerator*: number of patients treated with external beam radiotherapy (and/or concurrent chemotherapy) plus brachytherapy for cervical cancer per center per year *Denominator*: not applicable
Targets	Optimal target: n ≥20 Minimum required target: n ≥10
Quality indicator 6: Center participating in clinical trials in cervical cancers	
Type	Structural indicator
Description	The center actively participates in clinical trials (not restricted to surgery) in cervical cancer
Specifications	*Numerator*: number of clinical trials in cervical cancer not restricted to surgery only (ongoing or conducted in the past 5 years) *Denominator*: not applicable
Targets	Optimal target: n ≥3 Minimum required target: n ≥1
Quality indicator 7: Required pre-treatment work-up	
Type	Outcome indicator
Description	The required pre-treatment work-up is defined according to the ESGO-ESTRO-ESP guidelines
Specifications	*Numerator*: number of patients with cervical cancer who receive a pre-treatment work-up (excluding palliative cases) according to the ESGO-ESTRO-ESP guidelines *Denominator*: all patients with cervical cancer for whom a treatment with curative intent is planned
Target	100%
Quality indicator 8: A structured follow-up program of patient outcome is available	
Type	Outcome indicator
Description	All disease related events (including local failures) and grade ≥3 genitourinary and/or gastrointestinal and/or vaginal complications occurring after treatment are monitored in a structured follow-up program available either locally or nationally with central reporting

Continued

Table 1 Continued

Specifications	*Numerator*: not applicable *Denominator*: not applicable
Target	Availability of a structured follow-up program monitoring all disease-related events and severe complications, as defined above
Quality indicator 9: Patients are offered a survivorship program	
Type	Outcome indicator
Description	A structured program is necessary to report and review late gastrointestinal, urinary, and gynecological complications, including patient reported outcomes and quality of life, and to evaluate the true impact of treatments in terms of severe complications, but also mild to moderate morbidity A structured global program for functional rehabilitation and holistic care should be available. Such programs rely on the identification of healthcare professionals specialized in the treatment of radiation induced side effects, including gynecologists, gastroenterologists, urologists, and psychological support, either in the healthcare structure itself or through well identified referral networks Sexual health should be addressed, and any dysfunction should be documented in the medical record. Access to sexual rehabilitation programs should be available in the healthcare structure. Such rehabilitation programs involve medical and/or paramedical staff familiar with the prevention and palliation of long-term radiation-induced gynecological sequelae (eg, vaginal dilators, hormone replacement therapy, vaginal topicals, and psychological support)
Specifications	*Numerator*: not applicable *Denominator*: not applicable
Target	A structured survivorship program is offered to the patients after treatment
Quality indicator 10: Recurrence rate at 2 years in patients with a stage pT1b1 and pT1b2 confirmed N0 after primary surgical treatment for common histotypes	
Type	Outcome indicator
Description	This quality indicator applies to the common tumor types (squamous cell and usual types of adenocarcinoma) and both local and distant recurrences, after any eligible treatment, irrespective of adjuvant treatment strategy
Specifications	*Numerator*: lymph node-negative pT1b1 and pT1b2 patients whose disease recurs within 2 years after primary surgical treatment, irrespective of adjuvant treatment strategy, with a minimum of 2 years' follow-up *Denominator*: All lymph node-negative pT1b1 and pT1b2 patients after primary surgical treatment, irrespective of adjuvant treatment strategy, with a minimum of 2 years' follow-up
Target	<15%
Quality indicator 11: Counseling about the option of fertility-sparing treatment where eligible	
Type	Structural indicator
Description	Counseling of patients with stage T1b1 ≤2 cm disease, potential candidates for fertility-sparing treatment, is described in the ESGO-ESTRO-ESP guidelines. All eligible patients should be appropriately counseled about a possibility of fertility-sparing treatment. Fertility-sparing treatment should be undertaken exclusively in centers with comprehensive expertise in this management
Specifications	*Numerator*: number of patients with stage T1b1 ≤2 cm disease, potential candidates for fertility-sparing treatment, counseled according to the ESGO-ESTRO-ESP guidelines Denominator: all patients with stage T1b1 ≤2 cm disease, potential candidates for fertility-sparing treatment
Target	100%

*Exception: only emergency cases (eg, bleeding).
ESGO, European Society of Gynaecological Oncology; ESP, European Society of Pathology; ESTRO, European Society for Radiotherapy and Oncology.

team, adequate pre-operative investigations, and patient outcomes. Quality indicators 12 to 22 address the indications of radiation therapy including brachytherapy boost, intensity modulated radiotherapy techniques, individualized image-guided radiotherapy protocol with daily imaging based on on-board three-dimensional imaging, image-guided adaptive brachytherapy, combined intracavitary/interstitial brachytherapy and curative intent radiotherapy, and concurrent chemotherapy. The recommended radiation therapy

Table 2 Indicators for radiation therapy

Quality indicator 12: Patients are treated with brachytherapy boost if indicated	
Type	Outcome indicator
Description	Patients treated with external beam radiotherapy (with curative intent) for cervical cancer are treated with a brachytherapy boost
Specifications	*Numerator*: number of patients treated with external beam radiotherapy (with curative intent) for cervical cancer treated with a brachytherapy boost *Denominator:* total number of patients treated with external beam radiotherapy (with curative intent) for cervical cancer
Target	≥95%
Quality indicator 13: Patients are treated with intensity-modulated radiotherapy techniques	
Type	Outcome indicator
Description	Patients receiving pelvic and/or para-aortic radiotherapy are treated with intensity-modulated radiotherapy-like techniques to decrease treatment related toxicity

Continued

Table 2 Continued

Specifications	*Numerator*: number of cervical cancer patients treated with curative intent with pelvic and/or para-aortic intensity-modulated radiotherapy per center *Denominator*: total number of cervical cancer patients treated with curative intent with pelvic and/or para-aortic external irradiation per center
Targets	Optimal target: 100% Minimum required target: ≥90%
Quality indicator 14: Daily on-board image-guided radiotherapy to ensure target volume coverage	
Type	Outcome indicator
Description	Patients are treated following an image-guided radiotherapy protocol with daily imaging based on on-board three-dimensional imaging (cone beam CT, MRI, or CT), with individual margins to compensate for internal target motion, daily verification modalities, and couch correction strategies. Replanning is performed when target motion has an impact on dosimetric coverage
Specifications	*Numerator*: number of cervical cancer patients treated following an individualized image-guided radiotherapy protocol with daily on-board three-dimensional imaging *Denominator*: total number of cervical cancer patients receiving curative intent external beam radiotherapy
Target	≥95%
Quality indicator 15: Prescribed pelvic dose is 45 Gy in 1.8 Gy per fraction	
Type	Outcome indicator
Description	Prescribed dose for pelvic and/or para-aortic external beam radiotherapy is 45 Gy delivered in fractions of 1.8 Gy
Specifications	*Numerator*: number of patients treated with curative intent for cervical cancer and being prescribed a total dose of 45 Gy external beam radiotherapy *Denominator*: total number of patients treated with curative intent external beam radiotherapy for cervical cancer
Target	≥95%
Quality indicator 16: Lymph node boosts are delivered in patients with macroscopic lymph node spread	
Type	Outcome indicator
Description	Suspicious macroscopic lymph nodes are boosted, preferentially through simultaneous integrated boost
Specifications	Lymph node boosts: ► *Numerator*: number of patients with pelvic and/or para-aortic macroscopic lymph nodes treated with lymph node boost, excluding palliative cases ► *Denominator*: total number of patients with pelvic and/or para-aortic macroscopic lymph nodes treated with external beam radiotherapy, excluding palliative cases Simultaneous integrated boost use: ► *Numerator*: number of patients with pelvic and/or para-aortic macroscopic lymph nodes treated with simultaneous integrated boost ► *Denominator*: total number of patients with pelvic and/or para-aortic macroscopic lymph nodes receiving lymph node boost
Targets	Lymph node boosts: ≥95% Simultaneous integrated boosts use: ≥90%
Quality indicator 17: Patients treated with curative intent radiotherapy and concurrent chemotherapy (if indicated)	
Type	Outcome indicator
Description	Patients with cervical tumor are treated with radiotherapy and concurrent chemotherapy (curative intent only, regardless of the number of cycles)
Specifications	*Numerator*: number of patients treated with curative intent external beam radiotherapy for cervical cancer receiving concurrent chemotherapy *Denominator*: total number of patients treated with curative intent external beam radiotherapy for cervical cancer who are fit for concurrent chemotherapy without contraindications, such as renal insufficiency, hematological comorbidities, etc
Target	≥95%
Quality indicator 18: Imaging for image-guided brachytherapy	
Type	Outcome indicator
Description	Patients are treated with image-guided adaptive brachytherapy and at least the first brachytherapy fraction is planned based on MRI with applicator *in situ*
Specifications	Image-guided adaptive brachytherapy use: ► *Numerator*: number of patients treated with uterovaginal brachytherapy having three-dimensional imaging (CT or MRI) with applicator *in situ* performed at each implant ► *Denominator*: total number of patients treated with uterovaginal brachytherapy MRI at least at the first fraction: ► *Numerator*: number of patients treated with uterovaginal brachytherapy having an MRI with applicator *in situ* performed at least at the first fraction ► *Denominator*: total number of patients treated with uterovaginal brachytherapy without contraindications for MRI
Targets	Image-guided adaptive brachytherapy (MRI or CT): 100% MRI at least at the first fraction: 100%

Continued

Table 2 Continued

Quality indicator 19: Combined intracavitary/intestinal brachytherapy use							
Type	Outcome indicator						
Description	Combination of intracavitary and interstitial implant technique is recommended in patients with advanced stages, poor response to chemoradiotherapy, and/or or large volume and/or asymmetric tumors. It also helps decreasing doses to organs at risk.						
Specifications	Use of combined intracavitary/intestinal brachytherapy: ► *Numerator*: not applicable ► *Denominator*: not applicable If yes: ► *Numerator*: number of patients treated with combination of intracavitary uterovaginal and interstitial brachytherapy ► *Denominator*: total number of patients treated with uterovaginal brachytherapy						
Targets	Use of combined intracavitary/intestinal brachytherapy If yes: ► Optimal target: ≥60% ► Minimum required target: ≥40%						
Quality indicator 20: Brachytherapy is delivered after the patient has received a total external beam radiotherapy dose ≥36 Gy							
Type	Outcome indicator						
Description	Brachytherapy is performed after the patient has received a total external beam radiotherapy dose ≥36 Gy						
Specifications	*Numerator*: number of patients having uterovaginal brachytherapy performed after a total external beam radiotherapy dose ≥36 Gy *Denominator*: total number of patients treated with uterovaginal brachytherapy						
Target	≥95%						
Quality indicator 21: Overall treatment time does not exceed 50 days							
Type	Outcome indicator						
Description	Overall treatment time, calculated from the first external beam radiotherapy fraction to the last brachytherapy fraction (for high dose rate treatment) or pulse (for pulsed dose rate treatments), is ≤50 days. Overall treatment time calculation includes the delivery of lymph nodes boosts						
Specifications	*Numerator*: number of patients treated with radiotherapy (and/or concurrent chemotherapy) plus brachytherapy boost and having overall treatment time ≤50 days *Denominator*: total number of patients treated with radiotherapy (and/or concurrent chemotherapy) plus brachytherapy boost, excluding those with occasional severe medical complications (eg, neutropenia requiring treatment disruption or concurrent infection)						
Target	≥90%						
Quality indicator 22: Minimum required criteria for brachytherapy treatment planning							
Type	Process indicator						
Description	The center follows a protocol including, at minimum, the following criteria for brachytherapy:						
		D_{90} CTV_{HR}	D_{98} CTV_{HR}	D_{98}GTVres	$D_{98}CTV_{IR}$		
	Target dose	$EQD2_{10}$	$EQD2_{10}$	$EQD2_{10}$	$EQD2_{10}$		
	Achieved in 70% of patients*	>90 Gy <95 Gy	>80 Gy	>95 Gy	>60 Gy		
	Achieved in 90% of patients*	>85 Gy	>75 Gy	>90 Gy	–		
	OARs	Rectum $D2cm^3$ $EQD2_3$	Bladder $D2cm^3$ $EQD2_3$	ICRU rectovaginal point $EQD2_3$	ICRU bladder point $EQD2_3$	Bowel $D2cm^3$ $EQD2_3$	Sigmoid $D2cm^3$ $EQD2_3$
	Achieved in 70% of patients*	<65 Gy	<80 Gy	<65 Gy	<75 Gy	<65 Gy	<70 Gy
	Achieved in 90% of patients*	<75 Gy	<85 Gy	<75 Gy	<85 Gy	<75 Gy	<75 Gy
Specifications	*Numerator*: not applicable *Denominator*: not applicable						
Target	Brachytherapy treatment planning meets criteria detailed above						

*Achievability is assessed per dose volume histogram parameter
CTV_{HR}, high risk clinical target volume; CTV_{IR}, intermediate risk clinical target volume; D_{90}, minimal dose delivered to 90% of the target volume; D_{98}, minimal dose delivered to 98% of the target volume; $D2cm^3$, minimal doses delivered to the most irradiated 2 cm^3 parts of the organs; EQD2, equivalent doses per fractions of 2 Gy with alpha/beta value of 3 Gy for late normal tissue reactions (EQD23) and 10 Gy for tumor ($EQD2_{10}$); GTVres, residual gross tumor volume at time of brachytherapy; ICRU, International Commission on Radiation Units and Measurements; OARs, organs at risk.

doses, overall treatment time, indications for lymph node boost in patients with macroscopic lymph node spread, and adhering to minimum required criteria for brachytherapy treatment planning are also highlighted. Quality indicators dedicated to the surgical management (23–29) address the quality of surgical procedures, the compliance of management with the ESGO-ESTRO-ESP (European Society of Pathology) guidelines, and the need for a systematic assessment of surgical morbidity and oncologic outcomes as well as standardized and comprehensive documentation of surgical and pathological elements.[8–10]

Tumor stages are indicated following the 2018 Fédération Internationale de Gynécologie Obstétrique (FIGO) classification and the new (version 9) American Joint Committee on Cancer Tumor, Node, Mestatasis Staging for Cervical Cancer, both updated in 2021.[11 12]

Using a structured format, each quality indicator has a description specifying what the indicator is measuring.[13] Measurability specifications are then detailed to define how the quality indicators will be measured in practice. The time frame for assessment of criteria is the last calendar year (unless otherwise indicated). Further to measurement of the indicator, a target is indicated. This specifies the level which each center should be aiming to achieve. When appropriate, two targets were defined: an optimal target, expressing the best possible option for patients, and a minimal target, expressing the minimal requirement when practical feasibility factors are taken into account.

Each quality indicator was associated with a score, and a self-assessment form was built (Table 4). Centers interested in being accredited are required to fill in the self-assessment form. The sum

Table 3 Indicators dedicated to the surgical management

Quality indicator 23: Urological fistula rate within 30 post-operative days after a primary surgical treatment	
Type	Outcome indicator
Description	Any bladder or ureteral fistula diagnosed after a procedure including radical parametrectomy. The fistula rate should be calculated on the basis of data of the preceding 3 years. Radical parametrectomies include radical hysterectomies, radical trachelectomies, and parametrectomies
Specifications	*Numerator*: number of patients treated in the preceding 3 years who develop ureteral or bladder fistulas within 30 post-operative days *Denominator*: all patients with cervical cancer undergoing a procedure including radical parametrectomy in the preceding 3 years
Target	≤3%
Quality indicator 24: Proportion of patients after primary surgical treatment who have clear vaginal (invasive disease) and parametrial margins	
Type	Outcome indicator
Description	Clear surgical margins apply for both the vaginal margins and parametrial margins. Using an adequate clinical staging with modern imaging and careful pre-operative vaginal assessment, as defined in the ESGO-ESTRO-ESP guidelines, positive surgical margins after a radical hysterectomy or trachelectomy should be avoided
Specifications	*Numerator*: number of patients after primary surgical treatment who have clear surgical margins for invasive disease in the preceding 3 years *Denominator*: all patients who have undergone primary surgical treatment in the preceding 3 years
Target	≥97%
Quality indicator 25: Proportion of patients receiving adjuvant chemoradiotherapy after a primary surgical treatment for a presumed FIGO IB N0 disease	
Type	Structural indicator
Description	Management of patients after a surgical treatment for a presumed FIGO IB N0 disease is defined according to the ESGO-ESTRO-ESP guidelines.
Specifications	*Numerator*: number of patients receiving adjuvant chemoradiotherapy after primary surgical treatment for a presumed FIGO IB N0 disease, according to the ESGO-ESTRO-ESP guidelines *Denominator*: all patients with primary surgical treatment for a presumed FIGO IB N0 disease
Target	<20%
Quality indicator 26: Minimum required elements in surgical reports	
Type	Process indicator
Description	The required surgical report, based on the ESGO-ESTRO-ESP guidelines, must be structured and should include at least the following elements: surgical approach; type of lymph nodes staging; technique of sentinel lymph node detection; localization of detected sentinel lymph node; regions of pelvic lymph node dissection; detailed description of type of parametrial resection (Querleu-Morrow classification); type of adnexal procedure; localization of preserved adnexa/ovaries; basic surgical data (duration, blood loss); intra-operative complications (type, grade, and management)
Specifications	*Numerator*: number of patients with cervical cancer undergoing surgery who have a complete surgical report that contains all required elements as defined above *Denominator*: all patients with cervical cancer undergoing surgery
Target	100%
Quality indicator 27: Minimum required elements in pathology reports	
Type	Process indicator

Continued

Table 3 Continued

Description	The minimum required elements in pathology reports, based on the ESGO-ESTRO-ESP guidelines include at least the following elements: 1. Description of the specimen(s) submitted for histological evaluation 2. Macroscopic description of specimen(s) (biopsy, loop/cone, trachelectomy, hysterectomy), including specimen dimensions (three dimensions), number of tissue pieces for loop/cones, and maximum and minimum length of vaginal cuff and the parametria in two dimensions 3. Macroscopic tumor site(s), if the tumor is visible grossly, in trachelectomy and hysterectomy specimens 4. Tumor dimensions, including two measurements of horizontal extent and depth of invasion or thickness (tumor dimension should be based on a correlation of the gross and histological features). When multi-focal separate tumors are present, each should be described and measured separately, and the largest used for tumor staging. Specimens from prior conization and subsequent conization, trachelectomy, or hysterectomy should be correlated for estimation of the tumor size. This is important because different specimens might have been reported at different institutions. It should also be recognized that simply adding up the maximum size of tumors in separate specimens may significantly overestimate the maximum tumor dimension 5. Histological tumor type and tumor grade 6. The presence or absence of lymphovascular space involvement 7. Co-existing pathology (squamous intra-epithelial lesion/cervical intra-epithelial neoplasia, adenocarcinoma *in situ*, stratified mucin-producing intra-epithelial lesion) 8. Minimum distance of uninvolved cervical stroma 9. Margin status (invasive and pre-invasive disease, specify the margin(s)) 10. Lymph node status, including sentinel lymph node status, the total number of nodes found, the number and location of positive lymph nodes, and the presence of extra-nodal extension. Micrometastasis (>0.2 mm and up to 2 mm) are reported as pN1 (mi). Isolated tumor cells no greater than 0.2 mm in regional nodes should be reported as pN0 (i+). The number of positive lymph nodes for each anatomical group should be reported separately 11. Pathologically confirmed distant metastases 12. Provisional pathological staging (tumor node metastasis, 8th edition; a pathological FIGO stage may also be provided if dictated by local protocols 13. The results of any frozen section specimen evaluation
Specifications	*Numerator*: number of patients with cervical cancer undergoing surgery for whom all minimum required elements as defined above are reported *Denominator*: all patients with cervical cancer undergoing surgery
Target	100%
Quality indicator 28: Structured prospective reporting of 30-day post-operative morbidity	
Type	Outcome indicator
Description	Structured prospective reporting of the follow-up and 30-day post-operative morbidity using a validated surgical complications scoring system
Specifications	*Numerator*: number of patients with cervical cancer who have undergone a surgery and for whom a structured prospective reporting of the follow-up and 30-day post-operative morbidity is available *Denominator*: all patients with cervical cancer undergoing surgery
Target	100%
Quality indicator 29: Availability of sentinel lymph node mapping and pathological ultrastaging when indicated	
Type	Outcome indicator
Description	Lymph nodes staging is defined according to the ESGO-ESTRO-ESP guidelines
Specifications	*Numerator*: not applicable *Denominator*: not applicable
Target	Availability of sentinel lymph node mapping and pathological ultrastaging when indicated

ESGO, European Society of Gynaecological Oncology; ESP, European Society of Pathology; ESTRO, European Society for Radiotherapy and Oncology; FIGO, Fédération Internationale de Gynécologie Obstétrique.

of the individual scores being 109, it was decided that an institution that meets at least 80% of the score (score ≥88) provides satisfactory surgical and radiotherapeutical management of patients with cervical cancer. However, this sum is not the only criterion to take into account. Centers interested in becoming accredited must accept that ESGO may perform random audits of applicants by asking for operative reports and pathology reports from select cases in their database.

A database including all referred cases of cervical cancer, including surgical and non-surgical cases during the last 3 consecutive years, must be provided in order to allow the ESGO accreditation committee to validate the center's self-assessment form. The following additional documents should be provided:

- Documentation of clinical trials (NCT number and recruitment numbers overall per year, and if available publication list with PMID)
- Description of how complications are documented and quality management is performed.

ESGO has also developed criteria distinguishing centers with accreditation for the management of cervical cancer into two categories, either 'Standard Accreditation' or 'Center of Excellence'. These criteria are outlined in Box 1. Centers accredited as a Center of Excellence may then build a network for education, training, and research. The system will be refined in the future with the feedback provided by the scoring of candidate centers, and by prospective research on the multivariate correlation between survival outcomes,

Table 4 Scoring system

	Quality indicators	Targets (tick if applicable)		Scoring points
	General indicators			
1.	Treatment decisions discussed at a multidisciplinary team meeting	≥95%	☐	3*†
		<95%	☐	0
2.	Surgery performed or supervised by a certified gynecologic oncologist or a trained surgeon dedicated to gynecological cancer	100%	☐	3*†
		<100%	☐	0
3.	Number of hysterectomies and trachelectomies for invasive cervical cancer performed per center per year	n≥30 (optimal target)	☐	5*
		n≥15 (minimum required target)	☐	3†
		n<15	☐	0
4.	Time to primary radiotherapy less than 6 weeks from the date the patient is referred for the first time to the center	≥90% (optimal target)	☐	5*
		≥75% (minimum required target)	☐	3†
		<75%	☐	0
5.	Number of patients treated with external beam radiotherapy plus brachytherapy per center per year	n≥20 (optimal target)	☐	5*
		n≥10 (minimum required target)	☐	3†
		n<10	☐	0
6.	Center participating in clinical trials in cervical cancers	≥3 (optimal target)	☐	3
		≥1 (minimum required target)	☐	1
		None	☐	0
7.	Required pre-treatment work-up	100%	☐	3*†
		<100%	☐	0
8.	A structured follow-up program of patient outcome is available	Availability of a structured follow-up program monitoring all disease-related events and severe complications as defined in the description	☐	3*
		Other situations	☐	0
9.	Patients are offered a survivorship program (including pelvic, urogenital, gastrointestinal, lymphadema, etc)	A structured survivorship program is offered to the patients after treatment	☐	3*
		Other situations	☐	0
10.	Recurrence rate at 2 years in patients with a stage pT1b1 and pT1b2 confirmed N0 after primary surgical treatment for common histotypes	<15%	☐	3
		≥15%	☐	0
11.	Counseling about the option of fertility-sparing treatment where eligible	100%	☐	3
		<100%	☐	0
	Radiotherapy			
12.	Patients are treated with brachytherapy boost if indicated	≥95%	☐	5*†
		<95%	☐	0
13.	Patients are treated with intensity-modulated radiotherapy techniques	100% (optimal target)	☐	3*†
		≥90% (minimum required target)	☐	10
		<90%	☐	
14.	Daily on-board image-guided radiotherapy to ensure target volume coverage	≥95%	☐	3*
		<95%	☐	0
15.	Prescribed pelvic dose is 45 Gy in 1.8 Gy per fraction	≥95%	☐	3*†
		<95%	☐	0
16.	Lymph node boosts are delivered in patients with macroscopic lymph node spread	Lymph node boosts: ≥95% and simultaneous integrated boosts use: ≥90%	☐	3*†
		Other situations	☐	0

Continued

Table 4 Continued

	Quality indicators	Targets (tick if applicable)		Scoring points
17.	Patients treated with curative intent radiotherapy and concurrent chemotherapy (if indicated)	≥95%	☐	3*†
		<95%	☐	0
18.	Imaging for image-guided brachytherapy	Image-guided adaptive brachytherapy (MRI or CT): 100%	☐	3*†
		Image-guided adaptive brachytherapy (MRI or CT) <100% and	☐	0
		MRI at least at the first fraction: 100%	☐	3
		MRI at least at the first fraction <100%	☐	0
19.	Combined intracavitary/interstitial brachytherapy use	Yes	☐	3*†
		No	☐	0
		and		
		If yes: ≥60% (optimal target)	☐	3
		If yes, ≥40% (minimum required target)	☐	1
		<40%	☐	0
20.	Brachytherapy is delivered after the patient has received a total external beam radiotherapy dose ≥36 Gy	≥95%	☐	3
		<95%	☐	0
21.	Overall treatment time does not exceed 50 days	≥90%	☐	3*†
		<90%	☐	0
22.	Minimum required criteria for brachytherapy treatment planning	Brachytherapy treatment planning meets criteria detailed in the description	☐	3*
		Other situations	☐	0
	Surgery			
23.	Urological fistula rate within 30 post-operative days after a primary surgical treatment	≤3%	☐	5*†
		>3%	☐	0
24.	Proportion of patients after primary surgical treatment who have clear vaginal (invasive disease) and parametrial margins	≥97%	☐	5*†
		<97%	☐	0
25.	Proportion of patients receiving adjuvant chemoradiotherapy after a primary surgical treatment for a presumed FIGO IB N0 disease	<20%	☐	3*†
		≥20%	☐	0
26.	Minimum required elements in surgical reports	100%	☐	3
		<100%	☐	0
27.	Minimum required elements in pathology reports	100%	☐	3
		<100%	☐	0
28.	Structured prospective reporting of 30-day post-operative morbidity	100%	☐	5*†
		<100%	☐	0
29.	Availability of sentinel lymph node mapping and pathological ultrastaging when indicated	Yes	☐	5*†
		No	☐	0
	ADDITIONAL REQUIREMENT (CENTER OF EXCELLENCE)			
	Publication of 3 articles on cervical cancer authored by a member of the team over the last 3 years, including at least one article as first or last author		☐	-*
	PLEASE INDICATE THE SUM OF YOUR INDIVIDUAL SCORES /109‡‡			

*Mandatory to be a center of excellence.
†Mandatory for accreditation.
‡Maximum score if all optimal targets are met.
FIGO, Fédération Internationale de Gynécologie Obstétrique.

Box 1 Center criteria for ESGO accreditation for cervical cancer management: (A) Standard Accreditation and (B) Center of Excellence

A. Entry criteria for standard ESGO accreditation

⇒ Sum of the individual scores ≥88 (>80% of the score)

⇒ All the following criteria must apply (minimum required targets should be met (if any)): 1, 2, 3, 4, 5, 7, 12, 13, 15, 16, 17, 18, 19, 21, 23, 24, 25, 28, 29.

B. Requirements for ESGO accreditation as a Center of Excellence

⇒ Sum of the individual scores ≥88 (>80% of the score)

⇒ All the following criteria must apply (optimal targets should be met (if any)): 1, 2, 3, 4, 5, 7, 8, 9, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 23, 24, 25, 28, 29.

⇒ Publication of three articles on cervical cancer authored by a member of the team over the last 3 years, including at least one article as first or last author.

patient characteristics, and quality indicators. The ESGO hospital accreditation program for cervical cancer management has been launched and centers interested in being accredited can start the accreditation process online using the following link: https://esgo.org/explore/esgo-accreditation/.

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