

Supporting Information 2.
ESGE QIC Lower GI Delphi voting process: Round 1
Working Group chair: Michal F. Kaminski, Poland

St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Additional evidence	Agreement [%]	Mean score
1.1	Rate of adequate bowel preparation	In patients undergoing screening or diagnostic colonoscopy bowel preparation quality should be recorded using a validated scale with high intra-observer reliability. A service should have >90% procedures with adequate bowel preparation.	Patients undergoing screening/diagnostic colonoscopy	Adequate bowel preparation using Aronchick, Ottawa, general scales (other scales)	Lower than analyzed caecal intubation rate	Interval cancer rate	1.1	PREPROCEDURE	1	list pdfs of papers with inter-observer reliability and achieved rates of adequate bowel prep in	93.30	4.6
1.2	Rate of adequate bowel preparation	In patients undergoing screening or diagnostic colonoscopy bowel preparation quality should be recorded using a validated scale with high intra-observer reliability. A service should have >90% procedures with adequate bowel preparation.	Patients undergoing screening/diagnostic colonoscopy	Adequate bowel preparation <95 (80%) % of cases	Adequate bowel preparation ≥95 (80%) % of cases	Adenoma detection rate\ proximal PDR	1.2	PREPROCEDURE	2	list pdfs of papers with inter-observer reliability and achieved rates of adequate bowel prep in	86.70	4.3
1.3	Time slot for colonoscopy	Colonoscopy needs adequate time allocated for insertion, extubation and therapy. Routine procedures should be allocated a minimum 30 minutes and colonoscopies following positive fecal occult blood testing should be allocated a minimum 45 minutes to allow for therapeutic intervention.	Patients undergoing screening/diagnostic colonoscopy	More than 30 minutes (45min/ 1 hour)	30 minutes (45min)	Caecal intubation rate/ Adenoma detection rate	1.3	PREPROCEDURE	3	No evidence	73.30	4.0
1.4	Indication for colonoscopy	Colonoscopy report should include an explicit indication for the procedure categorized according to existing guidelines on appropriateness of colonoscopy use.	Patients undergoing colonoscopy	Audit using EPAGEII guidelines	Audit using ASGE guidelines	Diagnostic yield of colonoscopy	1.4	PREPROCEDURE	4	Evidence tables only	80.00	3.9
1.5	Withdrawn consent for colonoscopy	The number informed consent for colonoscopy withdrawals should be recorded.	No PICO; the statement created following discussion during the TC on Sept 28, 2015				None	PREPROCEDURE	5	No evidence	33.30	3.0
2.1	Cecal intubation rate	Complete colonoscopy requires caecal intubation with complete visualization of caecal caput and its landmarks.	Patients undergoing screening or diagnostic colonoscopy	Photo documented caecal intubation + written report (+ what photographed)	Documentation of caecal intubation included only in written report	Interval colorectal cancer and/or need for repeat procedure\proximal polyp detection rate	2.1	COMPLETENESS of PROCEDURE	6	In addition Baxter paper	100.00	4.7
2.2	Cecal intubation rate	A service should have a minimum unadjusted caecal intubation rate of ≥90% and aspirational rate of ≥95%.	Patients undergoing screening or diagnostic colonoscopy	Caecal intubation rate adjusted for obstructing tumors and poor bowel prep	Caecal intubation not adjusted for obstructing tumors and poor bowel prep	Interval colorectal cancer and/or need for repeat procedure	2.2	COMPLETENESS of PROCEDURE	7	Papers from UK on adjusted and unadjusted CIR	93.30	4.5
2.3	Photodocumented caecal intubation	Complete examination should be documented in both written and photo or video report.	Patients undergoing screening or diagnostic colonoscopy	Photo documented caecal intubation + written report (+ what photographed)	Documentation of caecal intubation included only in written report	Interval colorectal cancer and/or need for repeat procedure\proximal polyp detection rate	2.1	COMPLETENESS of PROCEDURE	8	Additional evidence 2.3_1	93.30	4.5

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2.4	Terminal ileum intubation rate	Complete diagnostic colonoscopy in patients with chronic diarrhea requires terminal ileum intubation.	Patients with diarrhea undergoing diagnostic colonoscopy	Terminal ileum intubation rate	Caecal intubation rate	Need for repeat procedure (because of lack of biopsies\photodocumentation – second outcome)	2.4	COMPLETENESS of PROCEDURE	9	Search for yield of TI intubation	73.30	3.9
2.5	Rate of complete sigmoidoscopy	Complete sigmoidoscopy requires visualization of rectum and sigmoid colon. Further advancement of endoscope depends on patients experience.	Patients undergoing screening sigmoidoscopy	Length of the scope inserted (60cm?)	Estimated reach of the splenic flexure	Interval colorectal cancer / polyp detection rate	2.3	COMPLETENESS of PROCEDURE	10	It has been rephrased following extensive discussion during TC on Sept 28, 2015	73.30	3.9
3.1	Adenoma detection rate	Adenoma detection rate should be used as a measure of adequate identification of pathology at screening or diagnostic colonoscopy.	Patients undergoing screening or diagnostic LGI endoscopy	Polyp detection rate (overall or only for >=5mm polyps)	Adenoma detection rate	Interval colorectal cancer/ CRC death	3.1	IDENTIFICATION of PATHOLOGY	11	Evidence tables only	93.30	4.5
3.2	Adenoma detection rate	Adenoma detection rate should be used as a measure of adequate identification of pathology at screening or diagnostic colonoscopy.	Patients undergoing screening or diagnostic LGI endoscopy	Proximal adenoma detection rate	Adenoma detection rate	Interval colorectal cancer/ CRC death	3.2	IDENTIFICATION of PATHOLOGY	12	Evidence tables only	93.30	4.6
3.3	Adenoma detection rate	Adenoma detection rate should be used as a measure of adequate identification of pathology at screening or diagnostic colonoscopy.	Patients undergoing screening or diagnostic LGI endoscopy	Advanced adenoma detection rate (≥10mm, or HGD, or villous component)	Adenoma detection rate	Interval colorectal cancer/ CRC death	3.3	IDENTIFICATION of PATHOLOGY	13	Evidence tables only	86.70	4.3
3.4	Adenoma detection rate	Adenoma detection rate should be used as a measure of adequate identification of pathology at screening or diagnostic colonoscopy.	Patients undergoing screening or diagnostic LGI endoscopy	Serrated polyp detection rate	Adenoma detection rate	Interval colorectal cancer/ CRC death	3.4	IDENTIFICATION of PATHOLOGY	14	Evidence tables only	73.30	4.2
3.5	Polypectomy rate	Polypectomy rate should be used as a supportive measure of adequate identification of pathology.	Patients undergoing screening or diagnostic LGI endoscopy	Polyp detection rate (overall or only for ≥5mm polyps)	Adenoma detection rate	Interval colorectal cancer/ CRC death	3.1	IDENTIFICATION of PATHOLOGY	15	Evidence tables + 3.2_1+3.2_2 (Baxter and paper from Mayo clinic)	66.70	3.5
3.6	Withdrawal time	A mean withdrawal time should be used as a supportive measure of adequate identification of pathology at negative screening or diagnostic colonoscopy. A mean withdrawal time of at least 6 minutes should be used as a benchmark.	Patients undergoing screening or diagnostic colonoscopy	Minimum mean withdrawal time	Less than “1”	Adenoma detection rate/Polyp detection rate	3.6	IDENTIFICATION of PATHOLOGY	16	Evidence tables + Shaukat from Gastro	86.70	4.1
3.7	Rectal retroversion rate	Routine rectal retroversion could help to improve detection of adenomas at colonoscopy	Patients undergoing screening/diagnostic colonoscopy	Routine retroversion in the rectum	No/non-routine retroversion in the rectum	Adenoma detection rate/Rate of missed adenomas\ patient experience\CRC	3.10	IDENTIFICATION of PATHOLOGY	17	Evidence tables + Lee TJW (Gut 2012)	66.70	3.7
4.1	Adequate description of polyp morphology	Paris classification should be routinely used to describe the morphology of polypoid and non-polypoid lesions identified at colonoscopy.	Patients undergoing removal of removal of non-polypoid colorectal lesions	Paris classification	Three categories: stalked, sessile, non polypoid (flat and depressed)	Incomplete resection rate/Interrupted procedure rate\complication	3.9	MANAGEMENT of PATHOLOGY	18	No evidence	73.30	4.0
4.2	Incomplete resection rate	In patients undergoing colonoscopic polypectomy the rate of incomplete polyp removal should be monitored.	Patients undergoing therapeutic colonoscopy	Therapeutic colonoscopy	No applicable	Incomplete polyp removal and/or need for repeat procedure	4.1	MANAGEMENT of PATHOLOGY	19	Evidence tables	86.70	4.1

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4.3	Incomplete resection rate	In patients undergoing colonoscopic polypectomy the rate of incomplete polyp removal should be monitored.	Patients undergoing en-bloc polyp removal (polypectomy, EMR, ESD)	Completeness of removal assessed by pathologist	Completeness of removal assessed by endoscopist	Interval CRC and/or need for repeat procedure/ recurrence at surveillance	4.2	MANAGEMENT of PATHOLOGY	20	Evidence tables	60.00	3.5	
4.4	Advanced imaging assessment	In patients undergoing removal of colorectal lesions with a depressed component (0-Ilc according to the Paris classification) or non-granular or mixed-type laterally spreading tumors conventional or virtual chromoendoscopy should be used to improve delineation of lesion margins and predict potential depth of invasion.	Patients undergoing removal of colorectal lesions with a depressed component (0-Ilc according to the Paris classification) or nongranular or mixed-type laterally spreading tumors	Minimum rate of use of conventional chromoendoscopy or virtual (NBI, FICE, high scan)	Less than "I"	Incomplete resection rate/interrupted procedure rate/ cancer detection rate	4.4	MANAGEMENT of PATHOLOGY	21	No evidence	86.70	4.2	
4.5	Tattooing resection sites	In patients undergoing removal of lesions with a depressed component (0-Ilc according to the Paris classification) or non-granular or mixed-type laterally spreading tumors located between ascending and sigmoid colon tattooing of the resection site should be used to improve future relocation of the resection site.	Patients undergoing removal of colorectal lesions with a depressed component (0-Ilc according to the Paris classification) or non-granular or mixed-type laterally spreading tumors	Tattooing resection sites	No tattooing	Ability to relocate resection site/ interval cancer rate	4.5	MANAGEMENT of PATHOLOGY	22	No evidence	100.00	4.3	
4.6	Appropriate polypectomy technique	Adequate resection technique of small and diminutive colorectal polyps includes biopsy forceps removal of polyps ≤3mm in size and snare polypectomy for larger polyps.	Patients undergoing removal of colorectal lesions	Minimum rate of use of appropriate polypectomy technique (type of accessory used for lesion size)	Less than "I"	Incomplete resection rate/interrupted procedure rate, complications	4.6	MANAGEMENT of PATHOLOGY	23	Evidence tables + M.Ferlitsch paper	80.00	4.0	
4.7	En-bloc resection rate	In order to decrease the risk of incomplete removal and polyp recurrence en-bloc resection of non-stalked colorectal polyps up to 2cm in size should be attempted. A service should have en-bloc resection rate of ≥85%.	Patients undergoing removal of non-stalked colorectal polyps up to (1) 2cm	En-bloc resection rate	Piecemeal resection rate	Incomplete resection rate/need for repeated procedure/rate of recurrence/complications	4.7	MANAGEMENT of PATHOLOGY	24	Evidence tables + CARE study + SEO JY, GIE 2015 for the rate of en-bloc resection	66.70	4.0	
4.8	Polyp retrieval rate	The non-diminutive polyp retrieval rate should be monitored. A service should have polyp retrieval rate of ≥90%.	No PICO; the statement created following discussion during the TC on Sept 28, 2015					None	MANAGEMENT of PATHOLOGY	25	Lee TJW, Gut 2012	80.00	4.1
5.1	Complication rate	In patients undergoing colonoscopy a 6-day readmission rate and 30-day mortality rate should be monitored using a reliable system.	Patients undergoing screening/diagnostic/diagnostic+biopsy/therapeutic colonoscopy	30-day readmission rate using healthcare registries/hospital records review	Patient reporting on bleeding/perforation	Mortality/Hospital stay/Patient experience	5.2	COMPLICATIONS	26	Evidence tables + Sarkar S, et al. Eur J Gastroenterol Hepatol 2012 + Munich polyp study and Adler A, et al. Endoscopy 2013	92.90	4.2	

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5.2	Complication rate	In patients undergoing colonoscopy a 6-day readmission rate and 30-day mortality rate should be monitored using a reliable system.	Patients undergoing screening/diagnostic/diagnostic+biopsy/therapeutic colonoscopy	Phone call/paper or electronic survey after 30 days on bleeding/perforation/hospital records review	Patient reporting on bleeding/perforation	Mortality/ access to emergency department/Hospital stay/frequency of complications/ 30 days readmission rate	5.1	COMPLICATIONS	27	Evidence tables + Sarkar S, et al. Eur J Gastroenterol Hepatol 2012 + Munich polyp study and Adler A, et al. Endoscopy 2013	93.30	4.5	
6.1	Competence assessment	Validated competence assessment tools should be used to document progress and proficiency level during colonoscopy training.	Endoscopists performing screening/diagnostic colonoscopies	Learning curves/semi-objective assessment tools (like DOPS)	Minimum number of colonoscopies	Caecal intubation rate/adenoma detection rate/need for assistance from colleagues / patient experience	6.2	COMPETENCE of ENDOSCOPISTS	28	Evidence tables	86.70	4.1	
6.2	Minimum number of colonoscopies	On average 300 colonoscopies and 300 polypectomies are needed to achieve competence in caecal intubation and complete resection of polyps, respectively.	Endoscopists performing screening/diagnostic colonoscopies	Minimum number of colonoscopies (overall or annual)	Lower than "I"	Caecal intubation rate/adenoma detection rate/need for assistance from colleagues / patient experience	6.1	COMPETENCE of ENDOSCOPISTS	29	Evidence tables	66.70	3.9	
6.3	Leveles of competence in colonoscopy	All certified colonoscopists should have EU level 2 competence in colonoscopy (removal of sessile and stalked lesions <25 mm providing there is good access).	No PICO; the statement created following discussion during the TC on Sept 28, 2015					None	COMPETENCE of ENDOSCOPISTS	30	EU guidelines	86.70	4.1
7.1	Patient experience	Patient experience during and after colonoscopy or sigmoidoscopy should be routinely measured.	Patients undergoing screening/diagnostic/therapeutic colonoscopy or sigmoidoscopy with moderate/no sedation	Assessed by the patients on the day after the procedure (phone/mailed survey)	Self-reported immediately after the procedure	Rate of patients reporting to be prepared for repeat procedure, Rate of severe/moderate pain or no pain/ anxiety, discomfort	7.3	PATIENT EXPERIENCE	31		80.00	4.3	
7.2	Patient experience	Patient experience with colonoscopy or sigmoidoscopy should be self-reported by a patient using a validated scale.	Patients undergoing screening/diagnostic/therapeutic colonoscopy or sigmoidoscopy with moderate/no sedation	Assessed by endoscopist/nurse (questionnaire)	Self-reported	Rate of severe/moderate pain or no pain/ patient experience (i.e. anxiety, discomfort, rate of patients reporting to be prepared for repeat procedure)	7.1	PATIENT EXPERIENCE	32	Evidence tables	86.70	4.2	
7.3	Patient experience	Patient experience with colonoscopy or sigmoidoscopy should be self-reported by a patient using a validated scale.	Patients undergoing screening/diagnostic/therapeutic colonoscopy or sigmoidoscopy with moderate/no sedation	VRS	VAS	Rate of severe/moderate pain or no pain/other measures (validity, responsiveness etc).	7.2	PATIENT EXPERIENCE	33	Evidence tables	86.70	4.2	

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8.1	Appropriate post-polypectomy surveillance recommendations	The rate of appropriate post-polypectomy surveillance recommendations should be monitored. The reason for deviation from national/European guidelines should always be provided.	No PICO; the statement created following discussion during the TC on Sept 28, 2015					None	POST-PROCEDURE	34	van Heijningen EM, et al. Gut 2015, maybe more	93.30	4.3

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St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Statement evaluative text	Agreement [%]	Mean score
N1.1	Rate of adequate bowel preparation	In patients undergoing screening or diagnostic colonoscopy bowel preparation quality should be recorded using a validated scale with high intra-observer reliability.	Patients undergoing screening/diagnostic colonoscopy	Adequate bowel preparation using Aronchick, Ottawa, general scales (other scales)	Adequate bowel preparation using Boston Bowel Preparation Scale (each segment at least 2 points)	Adenoma detection rate/ proximal Polyps DR/advanced adenoma detection rate/intraobserver reliability	1.1	PREPROCEDURE	1	1.1_1-5	100.00	4.8
N1.2	Rate of adequate bowel preparation	A service should have a minimum of ≥90% procedures and a target of ≥95% procedures with adequate bowel preparation assessed using a validated scale with high intra-observer reliability.	Patients undergoing screening/diagnostic colonoscopy	Adequate bowel preparation <95 (80%) % of cases	Adequate bowel preparation ≥95 (80%) % of cases	>90% of cases with adequate bowel preparations as assessed by a validated scale/Adenoma detection rate/advanced adenoma detection rate/ proximal PDR	1.2	PREPROCEDURE	2	1.2_1-2	100.00	4.6
N1.3	Time slot for colonoscopy	Colonoscopy needs adequate time allocated for insertion, extubation and therapy. Routine procedures should be allocated a minimum 30 minutes and colonoscopies following positive faecal occult blood testing should be allocated a minimum 45 minutes to allow for therapeutic intervention.	Patients undergoing screening/diagnostic colonoscopy	At least 30 minutes (45min/ 1 hour)	Less than 30 minutes (45min)	Caecal intubation rate/ Adenoma detection rate/ reported time of procedure between 30 and 45 minutes.	1.3	PREPROCEDURE	3	1.3_1	93.80	4.2
N1.4	Indication for colonoscopy	For audit purposes, the colonoscopy report should include an explicit indication for the procedure, categorized according to existing guidelines on appropriateness of colonoscopy use.	Patients undergoing screening/diagnostic colonoscopy	Complete documentation of the indications for colonoscopy	Incomplete documentation of the indications for colonoscopy	Completeness of documentation using EPAGEII guidelines or ASGE guidelines/ Diagnostic yield of colonoscopy (cancer, adenoma, relevant diagnostic findings)	1.4	PREPROCEDURE	4	Evidence tables only	93.80	4.3
1.5	Full consent for colonoscopy	Informed consent for every possible action undertaken during colonoscopy should be taken prior to examination.	Patients undergoing screening/diagnostic colonoscopy	Informed consent for all potential actions taken during the colonoscopy	No or partial consent for all actions taken during a colonoscopy	Adenoma detection rate/polyp detection rate and/or need for repeat procedure/risks and harms associated with failure to obtain consent.		PREPROCEDURE	5	No evidence	50.00	3,6
N2.1	Caecal intubation rate	Complete colonoscopy requires caecal intubation with complete visualization of the whole caecum and its landmarks.	Patients undergoing screening or diagnostic colonoscopy	Caecum reached and caecal intubation recorded, landmarks visualised.	Caecum not reached, caecal intubation not recorded/ no landmarks visualised	Documented caecal intubation rate /Interval colorectal cancer and/or need for repeat procedure/proximal polyp detection rate	2.1	COMPLETENESS of PROCEDURE	6	2.1	100.00	4.9

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N2.2	Caecal intubation rate	A service should have a minimum unadjusted caecal intubation rate of ≥90% and a target rate of ≥95% as a measure of the completeness of colonoscopy examination.	Patients undergoing screening or diagnostic colonoscopy	Caecal intubation not adjusted for obstructing tumours and poor bowel preparation	Caecal intubation rate adjusted for obstructing tumours and poor bowel preparation	Caecal intubation rate minimum ≥90% target rate ≥95%/Interval colorectal cancer and/or need for repeat procedure	2.1, 2.2	COMPLETENESS of PROCEDURE	7	2.1, 2.2	93.80	4.6
N2.3	Photo documented caecal intubation	Complete colonoscopy (caecal intubation) should be documented in both written form and a photo or video report.	Patients undergoing screening or diagnostic colonoscopy	Photo documented caecal intubation + written report (+ photographic images)	Documentation of caecal intubation included only in written report	Documented (written and photo) caecal intubation rates /Interval colorectal cancer and/or need for repeat procedure/proximal polyp detection rate	2.1, 2.3	COMPLETENESS of PROCEDURE	8	2.3_1	100.00	4.8
N2.4	Terminal ileum intubation rate	Complete diagnostic colonoscopy in patients with chronic diarrhoea requires terminal ileum intubation.	Patients with diarrhoea undergoing diagnostic colonoscopy	Intubation of the terminal ileum	No intubation of the terminal ileum	Rates of terminal ileum intubation/ Secondary outcome: Need for repeat procedure (because of lack of biopsies/photo documentation)	2.4	COMPLETENESS of PROCEDURE	9	2.4_1	75.00	3.9
N2.5	Rate of complete sigmoidoscopy	Complete sigmoidoscopy requires visualization of rectum and sigmoid colon.	Patients undergoing screening sigmoidoscopy	Complete sigmoidoscopy assessed by visualization of rectum and sigmoid colon	Complete sigmoidoscopy assessed by other means (length of the scope inserted (60cm?)/ estimated reach of the splenic flexure / EMI imaging	Documented visualization of rectum and sigmoid colon/Interval colorectal cancer / polyp detection rate/ need for repeat procedure/patient experience	2.3	COMPLETENESS of PROCEDURE	10	It has been rephrased following extensive discussion during TC on Sept 28, 2015	87.50	4.3
N3.1	Adenoma detection rate	Adenoma detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients aged 50 years or more undergoing screening or diagnostic LGI endoscopy	Adenoma detection rate	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.1	IDENTIFICATION of PATHOLOGY	11	Evidence tables only	100.00	4.7
N3.2	Proximal adenoma detection rate	Proximal adenoma detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients aged 50 years or more undergoing screening or diagnostic LGI endoscopy	Proximal adenoma detection rate	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.2	IDENTIFICATION of PATHOLOGY	12	Evidence tables only	37.50	3.2
N3.3	Advanced adenoma detection rate	Advanced adenoma detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients aged 50 years or more undergoing screening or diagnostic LGI endoscopy	Advanced adenoma detection rate (≥10mm, or HGD, or villous component)	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.3	IDENTIFICATION of PATHOLOGY	13	Evidence tables only	56.30	3.4

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N3.4	Serrated polyp detection rate	Serrated polyp detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients undergoing screening or diagnostic LGI endoscopy	Serrated polyp detection rate	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.4	IDENTIFICATION of PATHOLOGY	14	Evidence tables only	46.70	3.5
N3.5	Polypectomy rate	Polypectomy rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients undergoing screening or diagnostic LGI endoscopy	Polypectomy rate	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.1, 3.5	IDENTIFICATION of PATHOLOGY	15	Evidence tables + 3.5_1+3.5_2	43.80	3.3
N3.6	Withdrawal time	A mean withdrawal time of at least 6 minutes should be used as a supportive measure of adequate identification of pathology at negative screening or diagnostic colonoscopy.	Patients undergoing screening or diagnostic colonoscopy	Minimum withdrawal time of at least 6 minutes	Less than six minutes	Reported withdrawal time/Adenoma detection rate/Polyp detection rate	3.6	IDENTIFICATION of PATHOLOGY	16	Evidence tables, 3.6_1	87.50	4.1
N3.7	Rectal retroversion rate	Routine rectal retroversion could help to improve detection of adenomas at colonoscopy	Patients undergoing screening/diagnostic colonoscopy	Routine retroversion in the rectum	No/non-routine retroversion in the rectum	Adenoma detection rate/Rate of missed adenomas/ patient experience/CRC/ Adverse effects of routine rectal retroversion	3.10, 3.7	IDENTIFICATION of PATHOLOGY	17	Evidence tables + 3.7_1	68.80	3.8
N4.1	Adequate description of polyp morphology	Paris classification should be routinely used to describe the morphology of polypoid and non-polypoid lesions identified at colonoscopy.	Patients undergoing removal of removal of non-polypoid colorectal lesions	Paris classification	Non-Paris classification, i.e. classification into three categories: stalked, sessile, non polypoid (flat and depressed)	Incomplete resection rate/Interrupted procedure rate/adverse events/	3.9, 4.1	MANAGEMENT of PATHOLOGY	18	4.1_1	75.00	3.9
N4.2	Incomplete resection rate	In patients undergoing colonoscopic polypectomy the rate of incomplete polyp removal should be monitored.	Patients undergoing colonoscopic polypectomy	Incomplete polypectomy rate monitored	Incomplete polypectomy rate not monitored	Incomplete polyp removal rate and/or need for repeat procedure	4.1	MANAGEMENT of PATHOLOGY	19	Evidence tables	68.80	3.9
N4.3	Incomplete resection rate	The completeness of polyp removal should be assessed by pathologists.	Patients undergoing en-bloc polyp removal (polypectomy, EMR, ESD)	Completeness of removal assessed by pathologist	Completeness of removal assessed by endoscopist	Interval CRC and/or need for repeat procedure/ recurrence at surveillance	4.2	MANAGEMENT of PATHOLOGY	20	Evidence tables	62.50	3.4
N4.4	Advanced imaging assessment	In patients undergoing removal of colorectal lesions with a depressed component (0-Ilc according to the Paris classification) or non-granular or mixed-type laterally spreading tumours, conventional or virtual chromoendoscopy should be used to improve delineation of lesion margins and predict potential depth of invasion.	Patients undergoing removal of colorectal lesions with a depressed component (0-Ilc according to the Paris classification) or nongranular or mixed-type laterally spreading tumours	Use of conventional chromoendoscopy or virtual (NBI, FICE, high scan) with high definition endoscope	No use of advanced imaging	Incomplete resection rate/Interrupted procedure rate	4.4	MANAGEMENT of PATHOLOGY	21	No evidence	93.30	4.1

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N4.5	Tattooing resection sites	In patients undergoing removal of lesions with a depressed component (0-IIC according to the Paris classification) or non-granular or mixed-type laterally spreading tumours located between ascending and sigmoid colon the resection site should be tattooed to improve future relocation of the resection site.	Patients undergoing removal of colorectal lesions with a depressed component (0-IIC according to the Paris classification) or non-granular or mixed-type laterally spreading tumours	Tattooing resection sites	No tattooing	Ability to relocate resection site/ interval cancer rate/ Adverse effects of tattooing	4.5	MANAGEMENT of PATHOLOGY	22	No evidence	93.30	4.5
N4.6	Appropriate polypectomy technique	Adequate resection technique of small and diminutive colorectal polyps includes biopsy forceps removal of polyps ≤3mm in size and snare polypectomy for larger polyps.	Patients undergoing removal of colorectal lesions	Biopsy forceps removal of polyps ≤3mm in size and snare polypectomy for larger polyps.	Other methods of polyp removal	Rate of use of appropriate polypectomy technique (type of accessory used for lesion size) / Incomplete resection rate/Interrupted procedure rate, / interval cancer rate/ adverse effects and harms of polyp removal	4.6	MANAGEMENT of PATHOLOGY	23	Evidence tables + 4.6_1	93.30	4.1
N4.7	En-bloc resection rate	In order to decrease the risk of incomplete removal and polyp recurrence en-bloc resection of non-stalked colorectal polyps up to 2cm in size should be attempted and measured .	Patients undergoing removal of non-stalked colorectal polyps up to (1) 2cm	En-bloc resection	Piecemeal resection	Incomplete resection rate/need for repeated procedure/rate of recurrence/adverse effects	4.7	MANAGEMENT of PATHOLOGY	24	Evidence tables + 4.7_1-2	73.30	4.0
N4.8	En-bloc resection rate	A service should have en-bloc resection rate of non-stalked colorectal polyps up to 2cm in size of ≥85%.	Patients undergoing removal of non-stalked colorectal polyps up to (1) 2cm	En-bloc resection rate ≥85%	En-bloc resection rate <85%	En-bloc resection rate of ≥5%/ Incomplete resection rate/need for repeated procedure/rate of recurrence/adverse effects of en-bloc resection	4.7, 4.8	MANAGEMENT of PATHOLOGY	24	Evidence tables + 4.8_1-2	68.80	3.6
N4.9	Polyp retrieval rate	The non-diminutive polyp retrieval rate should be monitored. A service should have polyp retrieval rate of ≥90%.	Patients undergoing removal of diminutive polyps.	Polyp resection rate ≥90%	Polyp resection rate <90%	Polyp retrieval rate of ≥90%/need for repeated procedure/rate of recurrence/complications	4.9	MANAGEMENT of PATHOLOGY	25	4.9_1-2	86.70	4.3

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St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Statement evaluative text	Agreement [%]	Mean score
N5.1	Complication rate	In patients undergoing colonoscopy a 6-day readmission rate and 30-day mortality rate should be monitored using a reliable system.	Patients undergoing screening/diagnostic/diagnostic +biopsy/therapeutic colonoscopy	Monitoring Six-Day readmission rates and 30 day mortality rates using a reliable system	Failure to monitor six day readmission rates and 30 day mortality rates using a reliable system	30-day readmission rate using healthcare registries/Patient reporting on bleeding/perforation/Mortality/Hospital stay/Patient experience	5.2, 5.1	COMPLICATIONS	26	Evidence tables + 5.1_1-3	93.80	4.3
N6.1	Competence assessment	Validated competence assessment tools should be used to document progress and proficiency level during colonoscopy training.	Endoscopists performing screening/diagnostic colonoscopies	Validated competence assessment tools e.g. learning curves/semi-objective assessment tools (like DOPS)	Minimum number of colonoscopies	Progress documented using validated competence assessment tools/Caecal intubation rate/adenoma detection rate/need for assistance from colleagues / patient experience	6.2	COMPETENCE of ENDOSCOPISTS	28	Evidence tables	93.80	4.4
N6.2	Minimum number of colonoscopies	On average 300 colonoscopies are needed to achieve competence in caecal intubation.	Endoscopists performing screening/diagnostic colonoscopies	300 colonoscopies as a minimum number of colonoscopies (overall or annual)	Fewer than the minimum number of colonoscopies in "I"	Caecal intubation rate/adenoma detection rate/need for assistance from colleagues / patient experience	6.1	COMPETENCE of ENDOSCOPISTS	29	Evidence tables	87.50	4.3
N6.3	Minimum number of polypectomies	On average 300 at least 250 polypectomies are needed to achieve competence in complete and en-bloc resection of polyps.	Endoscopists performing screening/diagnostic colonoscopies	300 250 polypectomies as a minimum number of polypectomies (overall or annual)	Fewer than the minimum number of polypectomies in "I"	Need for assistance from colleagues /complete removal of polyps/ competence in polypectomy using validated scale/patient experience	6.1	COMPETENCE of ENDOSCOPISTS	30	Evidence tables	68.60	3.7
N6.4	Levels of competence in colonoscopy	All certified colonoscopists should have EU level 2 competence in colonoscopy (removal of sessile and stalked lesions <25 mm providing there is good access).	Endoscopists performing screening/diagnostic colonoscopies	EU level 2 competence in colonoscopy (removal of sessile and stalked lesions <25 mm)	Other measures of competence	Caecal intubation rate/adenoma detection rate/need for assistance from colleagues / patient experience		COMPETENCE of ENDOSCOPISTS	31	EU guidelines	93.80	4.2
N7.1	Patient experience	Patient experience during and after unsedated or moderately sedated colonoscopy or sigmoidoscopy should be routinely measured.	Patients undergoing screening/diagnostic/therapeutic colonoscopy or sigmoidoscopy with moderate/no sedation	No sedation or moderate sedation	Deep sedation	Rate of severe/moderate pain or no pain/ anxiety, discomfort/ adverse effects of sedation	7.3, 7.1	PATIENT EXPERIENCE	32	7.1_1-4	93.80	4.4

ESGE QIC Lower GI Delphi voting process: Round 2

St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Statement evaluative text	Agreement [%]	Mean score
N7.2	Patient experience	Patient experience with colonoscopy or sigmoidoscopy should be self-reported by a patient using a validated scale.	Patients undergoing screening/diagnostic/therapeutic colonoscopy or sigmoidoscopy with moderate/no sedation	Self-reported	Assessed by endoscopist/nurse (Using validated questionnaire)	Rate of severe/moderate pain or no pain/ patient experience (i.e. anxiety, discomfort, rate of patients reporting to be prepared for repeat procedure)/ other adverse events following colonoscopy	7.1	PATIENT EXPERIENCE	33	Evidence tables	93.80	4.5
N8.1	Appropriate post-polypectomy surveillance recommendations	Adherence to post-polypectomy surveillance recommendations should be monitored. The reason for deviation from national/European guidelines should always be provided.	Patients undergoing colonoscopic polypectomy	Monitoring of post-polypectomy surveillance recommendations according to national or European guidelines	Failure to monitor	Monitoring rates/interval between colonoscopies/adherence with national and European guidelines as assessed by audit/provision of reasons for deviation from guidelines recorded.	8.1	POST-PROCEDURE	34	8.1_1	93.80	4.6

ESGE QIC Lower GI Delphi voting process: Round 3

St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Statement evaluative text	Agreement [%]	Mean score
N1.3	Time slot for colonoscopy	Colonoscopy needs adequate time allocated for insertion, extubation and therapy. Routine colonoscopy should be allocated a minimum 30 minutes. Colonoscopies following positive faecal occult blood testing should be allocated a minimum 45 minutes to allow for therapeutic intervention.	Patients undergoing screening/diagnostic colonoscopy	At least 30 minutes (45min/ 1 hour)	Less than 30 minutes (45min)	Caecal intubation rate/ Adenoma detection rate/ reported time of procedure between 30 and 45 minutes.	1.3	PREPROCEDURE	3	1.3_1	100.00	4.3
N2.4	Terminal ileum intubation rate	Complete diagnostic colonoscopy in patients with chronic diarrhoea requires terminal ileum intubation and biopsy.	Patients with diarrhoea undergoing diagnostic colonoscopy	Intubation of the terminal ileum	No intubation of the terminal ileum	Rates of terminal ileum Intubation/ Secondary outcome: Need for repeat procedure (because of lack of biopsies/photo documentation)	2.4	COMPLETENESS of PROCEDURE	9	2.4_1	53.80	4.5
N2.5	Rate of complete sigmoidoscopy	Complete sigmoidoscopy requires visualization of rectum and sigmoid colon. Further advancement of endoscope depends on patients experience.	Patients undergoing screening sigmoidoscopy	Complete sigmoidoscopy assessed by visualization of rectum and sigmoid colon	Complete sigmoidoscopy assessed by other means (length of the scope inserted (60cm?)/ estimated reach of the splenic flexure / EMI imaging	Documented visualization of rectum and sigmoid colon/Interval colorectal cancer / polyp detection rate/ need for repeat procedure/patient experience	2.3	COMPLETENESS of PROCEDURE	10	It has been rephrased following extensive discussion during TC on Sept 28, 2015	46.20	3.4
N3.2	Proximal polyp detection rate	Proximal polyp detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients aged 50 years or more undergoing screening or diagnostic LGI endoscopy	Proximal polyp detection rate	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.2	IDENTIFICATION of PATHOLOGY	12	Evidence tables only	23.10	2.7
N3.3	Advanced adenoma detection rate	Advanced adenoma detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients aged 50 years or more undergoing screening or diagnostic LGI endoscopy	Advanced adenoma detection rate (≥ 10 mm, or HGD, or villous component)	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.3	IDENTIFICATION of PATHOLOGY	13	Evidence tables only	38.50	2.8
N3.4	Serrated polyp detection rate	Serrated polyp detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients undergoing screening or diagnostic LGI endoscopy	Serrated polyp detection rate	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.4	IDENTIFICATION of PATHOLOGY	14	Evidence tables only	30.80	2.8
N3.5	Polyp detection rate	Polyp detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients undergoing screening or diagnostic LGI endoscopy	Polypectomy rate	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.1, 3.5	IDENTIFICATION of PATHOLOGY	15	Evidence tables + 3.5_1+3.5_2	84.60	4.1

ESGE QIC Lower GI Delphi voting process: Round 3

St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Statement evaluative text	Agreement [%]	Mean score
N3.7	Rectal retroversion rate	Routine rectal retroversion improves the detection rate of adenomas at colonoscopy in patients aged 50 years or more undergoing screening/diagnostic colonoscopy.	Patients undergoing screening/diagnostic colonoscopy	Routine retroversion in the rectum	No/non-routine retroversion in the rectum	Adenoma detection rate/Rate of missed adenomas/ patient experience/CRC/ Adverse effects of routine rectal retroversion	3.10, 3.7	IDENTIFICATION of PATHOLOGY	17	Evidence tables + 3.7_1	46.20	3.5
N4.1	Adequate description of polyp morphology	Paris classification should be routinely used to describe the morphology of non-polypoid lesions identified at colonoscopy.	Patients undergoing removal of removal of non-polypoid colorectal lesions	Paris classification	Non-Paris classification, i.e. classification into three categories: stalked, sessile, non polypoid (flat and depressed)	Incomplete resection rate/Interrupted procedure rate/adverse events/	3.9, 4.1	MANAGEMENT of PATHOLOGY	18	4.1_1	84.60	4.0
N4.2	Incomplete resection rate	In patients undergoing colonoscopic polypectomy the rate of incomplete polyp removal should be monitored.	Patients undergoing colonoscopic polypectomy	Incomplete polypectomy rate monitored	Incomplete polypectomy rate not monitored	Incomplete polyp removal rate and/or need for repeat procedure	4.1	MANAGEMENT of PATHOLOGY	19	Evidence tables	53.80	3.5
N4.3	Incomplete resection rate	The completeness of polyp removal should be assessed by pathologists.	Patients undergoing en-bloc polyp removal (polypectomy, EMR, ESD)	Completeness of removal assessed by pathologist	Completeness of removal assessed by endoscopist	Interval CRC and/or need for repeat procedure/ recurrence at surveillance	4.2	MANAGEMENT of PATHOLOGY	20	Evidence tables	53.80	3.1
N4.7	En-bloc resection rate	In order to decrease the risk of incomplete removal and polyp recurrence en-bloc resection of non-stalked colorectal polyps up to 15mm in size should be attempted.	Patients undergoing removal of non-stalked colorectal polyps up to 15mm	En-bloc resection	Piecemeal resection	Incomplete resection rate/need for repeated procedure/rate of recurrence/adverse effects	4.7	MANAGEMENT of PATHOLOGY	24	Evidence tables + 4.7_1-2	76.90	3.8
N4.8	En-bloc resection rate	A service should have en-bloc resection rate of non-stalked colorectal polyps up to 15mm in size of at least 85%.	Patients undergoing removal of non-stalked colorectal polyps up to 15mm	En-bloc resection rate at least (greater than or equal to) 85%	En-bloc resection rate <85%	En-bloc resection rate of ≥85%/ Incomplete resection rate/need for repeated procedure/rate of recurrence/adverse effects of en-bloc resection	4.7, 4.8	MANAGEMENT of PATHOLOGY	24	Evidence tables + 4.8_1-2	46.20	3.1
N6.2	Minimum number of colonoscopies	On average 300 colonoscopies are needed to achieve competence in caecal intubation.	Endoscopists performing screening/diagnostic colonoscopies	300 colonoscopies as a minimum number of colonoscopies (overall or annual)	Fewer than the minimum number of colonoscopies in "I"	Caecal intubation rate/adenoma detection rate/need for assistance from colleagues / patient experience	6.1	COMPETENCE of ENDOSCOPISTS	29	Evidence tables	92.30	4.2

ESGE QIC Lower GI Delphi voting process: Round 3

St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Statement evaluative text	Agreement [%]	Mean score
N6.3	Minimum number of polypectomies	On average at least 250 polypectomies are needed to achieve competence in complete and en-bloc resection of polyps.	Endoscopists performing screening/diagnostic colonoscopies	250 polypectomies as a minimum number of polypectomies (overall or annual)	Fewer than the minimum number of polypectomies in "I"	Need for assistance from colleagues /complete removal of polyps/ competence in polypectomy using validated scale/patient experience	6.1	COMPETENCE of ENDOSCOPISTS	30	Evidence tables	61.50	3.4

ESGE QIC Lower GI Delphi voting process: Accepted final statements

St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Voting round	Statement evaluative text	Agreement [%]	Mean score	KPM = 1, APM=2
N1.1	Rate of adequate bowel preparation	In patients undergoing screening or diagnostic colonoscopy bowel preparation quality should be recorded using a validated scale with high intra-observer reliability.	Patients undergoing screening/diagnostic colonoscopy	Adequate bowel preparation using Aronchick, Ottawa, general scales (other scales)	Adequate bowel preparation using Boston Bowel Preparation Scale (each segment at least 2 points)	Adenoma detection rate/ proximal Polyps DR/advanced adenoma detection rate/intraobserver reliability	1.1	PREPROCEDURE	1	2	1.1_1-5	100.00	4.8	1
N1.2	Rate of adequate bowel preparation	A service should have a minimum of ≥90% procedures and a target of ≥95% procedures with adequate bowel preparation assessed using a validated scale with high intra-observer reliability.	Patients undergoing screening/diagnostic colonoscopy	Adequate bowel preparation <95 (80%) % of cases	Adequate bowel preparation ≥95 (80%) % of cases	>90% of cases with adequate bowel preparations as assessed by a validated scale/Adenoma detection rate/advanced adenoma detection rate/ proximal PDR	1.2	PREPROCEDURE	2	2	1.2_1-2	100.00	4.6	1
N1.3	Time slot for colonoscopy	Colonoscopy needs adequate time allocated for insertion, extubation and therapy. Routine colonoscopy should be allocated a minimum 30 minutes. Colonoscopies following positive faecal occult blood testing should be allocated a minimum 45 minutes to allow for therapeutic intervention.	Patients undergoing screening/diagnostic colonoscopy	At least 30 minutes (45min/ 1 hour)	Less than 30 minutes (45min)	Caecal intubation rate/ Adenoma detection rate/ reported time of procedure between 30 and 45 minutes.	1.3	PREPROCEDURE	3	3	1.3_1	100.00	4.3	2
N1.4	Indication for colonoscopy	For audit purposes, the colonoscopy report should include an explicit indication for the procedure, categorized according to existing guidelines on appropriateness of colonoscopy use.	Patients undergoing screening/diagnostic colonoscopy	Complete documentation of the indications for colonoscopy	Incomplete documentation of the indications for colonoscopy	Completeness of documentation using EPAGEII guidelines or ASGE guidelines/ Diagnostic yield of colonoscopy (cancer, adenoma, relevant diagnostic findings)	1.4	PREPROCEDURE	4	2	Evidence tables only	93.80	4.3	2
N2.1	Caecal intubation rate	Complete colonoscopy requires caecal intubation with complete visualization of the whole caecum and its landmarks.	Patients undergoing screening or diagnostic colonoscopy	Caecum reached and caecal intubation recorded, landmarks visualised.	Caecum not reached, caecal intubation not recorded/ no landmarks visualised	Documented caecal intubation rate /Interval colorectal cancer and/or need for repeat procedure/proximal polyp detection rate	2.1	COMPLETENESS of PROCEDURE	6	2	2.1	100.00	4.9	1
N2.2	Caecal intubation rate	A service should have a minimum unadjusted caecal intubation rate of ≥90% and a target rate of ≥95% as a measure of the completeness of colonoscopy examination.	Patients undergoing screening or diagnostic colonoscopy	Caecal intubation not adjusted for obstructing tumours and poor bowel preparation	Caecal intubation rate adjusted for obstructing tumours and poor bowel preparation	Caecal intubation rate minimum ≥90% target rate ≥95%/Interval colorectal cancer and/or need for repeat procedure	2.1, 2.2	COMPLETENESS of PROCEDURE	7	2	2.1, 2.2	93.80	4.6	1

ESGE QIC Lower GI Delphi voting process: Accepted final statements

St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Voting round	Statement evaluative text	Agreement [%]	Mean score	KPM = 1, APM=2
N2.3	Photo documented caecal intubation	Complete colonoscopy (caecal intubation) should be documented in both written form and a photo or video report.	Patients undergoing screening or diagnostic colonoscopy	Photo documented caecal intubation + written report (+ photographic images)	Documentation of caecal intubation included only in written report	Documented (written and photo) caecal intubation rates /Interval colorectal cancer and/or need for repeat procedure/proximal polyp detection rate	2.1, 2.3	COMPLETENESS of PROCEDURE	8	2	2.3_1	100.00	4.8	1
N3.1	Adenoma detection rate	Adenoma detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients aged 50 years or more undergoing screening or diagnostic LGI endoscopy	Adenoma detection rate	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.1	IDENTIFICATION of PATHOLOGY	11	2	Evidence tables only	100.00	4.7	1
N3.5	Polyp detection rate	Polyp detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	Patients undergoing screening or diagnostic LGI endoscopy	Polyp detection rate	Alternative measures of adequate inspection	Interval colorectal cancer/ CRC death	3.1, 3.5	IDENTIFICATION of PATHOLOGY	15	3	Evidence tables + 3.5_1+3.5_2	84.60	4.1	2
N3.6	Withdrawal time	A mean withdrawal time of at least 6 minutes should be used as a supportive measure of adequate identification of pathology at negative screening or diagnostic colonoscopy.	Patients undergoing screening or diagnostic colonoscopy	Minimum withdrawal time of at least 6 minutes	Less than six minutes	Reported withdrawal time/Adenoma detection rate/Polyp detection rate	3.6	IDENTIFICATION of PATHOLOGY	16	2	Evidence tables, 3.6_1	87.50	4.1	2
N4.1	Adequate description of polyp morphology	Paris classification should be routinely used to describe the morphology of non-polypoid lesions identified at colonoscopy.	Patients undergoing removal of non-polypoid colorectal lesions	Paris classification	Non-Paris classification, i.e. classification into three categories: stalked, sessile, non polypoid (flat and depressed)	Incomplete resection rate/Interrupted procedure rate/adverse events/	3.9, 4.1	MANAGEMENT of PATHOLOGY	18	2	4.1_1	84.60	4.0	2
N4.4	Advanced imaging assessment	In patients undergoing removal of colorectal lesions with a depressed component (0-IIc according to the Paris classification) or non-granular or mixed-type laterally spreading tumours, conventional or virtual chromoendoscopy should be used to improve delineation of lesion margins and predict potential depth of invasion.	Patients undergoing removal of colorectal lesions with a depressed component (0-IIc according to the Paris classification) or nongranular or mixed-type laterally spreading tumours	Use of conventional chromoendoscopy or virtual (NBI, FICE, high scan) with high definition endoscope	No use of advanced imaging	Incomplete resection rate/Interrupted procedure rate	4.4	MANAGEMENT of PATHOLOGY	21	3	No evidence	93.30	4.1	2

ESGE QIC Lower GI Delphi voting process: Accepted final statements

St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Voting round	Statement evaluative text	Agreement [%]	Mean score	KPM = 1, APM=2
N4.5	Tattooing resection sites	In patients undergoing removal of lesions with a depressed component (0-IIc according to the Paris classification) or non-granular or mixed-type laterally spreading tumours located between ascending and sigmoid colon the resection site should be tattooed to improve future relocation of the resection site.	Patients undergoing removal of colorectal lesions with a depressed component (0-IIc according to the Paris classification) or non-granular or mixed-type laterally spreading tumours	Tattooing resection sites	No tattooing	Ability to relocate resection site/ interval cancer rate/ Adverse effects of tattooing	4.5	MANAGEMENT of PATHOLOGY	22	2	No evidence	93.30	4.5	2
N4.6	Appropriate polypectomy technique	Adequate resection technique of small and diminutive colorectal polyps includes biopsy forceps removal of polyps ≤3mm in size and snare polypectomy for larger polyps.	Patients undergoing removal of colorectal lesions	Biopsy forceps removal of polyps ≤3mm in size and snare polypectomy for larger polyps.	Other methods of polyp removal	Rate of use of appropriate polypectomy technique (type of accessory used for lesion size) / Incomplete resection rate/Interrupted procedure rate, / interval cancer rate/ adverse effects and harms of polyp removal	4.6	MANAGEMENT of PATHOLOGY	23	2	Evidence tables + 4.6_1	93.30	4.1	1
N4.9	Polyp retrieval rate	The non-diminutive polyp retrieval rate should be monitored. A service should have polyp retrieval rate of >=90%.	Patients undergoing removal of diminutive polyps.	Polyp resection rate >=90%	Polyp resection rate <90%	Polyp retrieval rate of >=90%/need for repeated procedure/rate of recurrence/complications	4.9	MANAGEMENT of PATHOLOGY	25	2	4.9_1-2	86.70	4.3	2
N5.1	Complication rate	In patients undergoing colonoscopy a 6-day readmission rate and 30-day mortality rate should be monitored using a reliable system.	Patients undergoing screening/diagnostic/diagnostic +biopsy/therapeutic colonoscopy	Monitoring Six-Day readmission rates and 30 day mortality rates using a reliable system	Failure to monitor six day readmission rates and 30 day mortality rates using a reliable system	30-day readmission rate using healthcare registries/Patient reporting on bleeding/perforation/Mortality/Hospital stay/Patient experience	5.2, 5.1	COMPLICATIONS	26	2	Evidence tables + 5.1_1-3	93.80	4.3	1
N6.1	Competence assessment	Validated competence assessment tools should be used to document progress and proficiency level during colonoscopy training.	Endoscopists performing screening/diagnostic colonoscopies	Validated competence assessment tools e.g. learning curves/semi-objective assessment tools (like DOPS)	Minimum number of colonoscopies	Progress documented using validated competence assessment tools/Caecal intubation rate/adenoma detection rate/need for assistance from colleagues / patient experience	6.2	COMPETENCE of ENDOSCOPISTS	28	2	Evidence tables	93.80	4.4	1

ESGE QIC Lower GI Delphi voting process: Accepted final statements

St. ID	Performance measure	Statement	Population	Interventions	Comparator	Outcome	CQ Source	Group	Statement order	Voting round	Statement evaluative text	Agreement [%]	Mean score	KPM = 1, APM=2
N6.2	Minimum number of colonoscopies	On average 300 colonoscopies are needed to achieve competence in caecal intubation.	Endoscopists performing screening/diagnostic colonoscopies	300 colonoscopies as a minimum number of colonoscopies (overall or annual)	Fewer than the minimum number of colonoscopies in "I"	Caecal intubation rate/adenoma detection rate/need for assistance from colleagues / patient experience	6.1	COMPETENCE of ENDOSCOPISTS	29	3	Evidence tables	92.30	4.2	2
N6.4	Levels of competence in colonoscopy	All certified colonoscopists should have EU level 2 competence in colonoscopy (removal of sessile and stalked lesions <25 mm providing there is good access).	Endoscopists performing screening/diagnostic colonoscopies	EU level 2 competence in colonoscopy (removal of sessile and stalked lesions <25 mm)	Other measures of competence	Caecal intubation rate/adenoma detection rate/need for assistance from colleagues / patient experience		COMPETENCE of ENDOSCOPISTS	31	2	EU guidelines	93.80	4.2	2
N7.1	Patient experience	Patient experience during and after unsedated or moderately sedated colonoscopy or sigmoidoscopy should be routinely measured.	Patients undergoing screening/diagnostic/therapeutic colonoscopy or sigmoidoscopy with moderate/no sedation	No sedation or moderate sedation	Deep sedation	Rate of severe/moderate pain or no pain/ anxiety, discomfort/ adverse effects of sedation	7.3, 7.1	PATIENT EXPERIENCE	32	2	7.1_1-4	93.80	4.4	1
N7.2	Patient experience	Patient experience with colonoscopy or sigmoidoscopy should be self-reported by a patient using a validated scale.	Patients undergoing screening/diagnostic/therapeutic colonoscopy or sigmoidoscopy with moderate/no sedation	Self-reported	Assessed by endoscopist/nurse (Using validated questionnaire)	Rate of severe/moderate pain or no pain/ patient experience (i.e. anxiety, discomfort, rate of patients reporting to be prepared for repeat procedure)/ other adverse events following colonoscopy	7.1	PATIENT EXPERIENCE	33	2	Evidence tables	93.80	4.5	1
N8.1	Appropriate post-polypectomy surveillance recommendations	Adherence to post-polypectomy surveillance recommendations should be monitored. The reason for deviation from national/European guidelines should always be provided.	Patients undergoing colonoscopic polypectomy	Monitoring of post-polypectomy surveillance recommendations according to national or European guidelines	Failure to monitor	Monitoring rates/interval between colonoscopies/adherence with national and European guidelines as assessed by audit/ provision of reasons for deviation from guidelines recorded	8.1	POST-PROCEDURE	34	2	8.1_1	93.80	4.6	1

ESGE QIC Lower GI Delphi voting process: Final performance measures

Domain	St. ID	Performance measure (PM)	KPM = 1, APM=2	Statement	Agreement [%]	Mean score
PREPROCEDURE	N1.1	Rate of adequate bowel preparation	1	In patients undergoing screening or diagnostic colonoscopy bowel preparation quality should be recorded using a validated scale with high intra-observer reliability.	100.00	4.8
				A service should have a minimum of ≥90% procedures and a target of ≥95% procedures with adequate bowel preparation assessed using a validated scale with high intra-observer reliability.	100.00	4.6
PREPROCEDURE	N1.2	Time slot for colonoscopy	2	Colonoscopy needs adequate time allocated for insertion, extubation and therapy. Routine colonoscopy should be allocated a minimum 30 minutes. Colonoscopies following positive faecal occult blood testing should be allocated a minimum 45 minutes to allow for therapeutic intervention.	100.00	4.3
PREPROCEDURE	N1.3	Indication for colonoscopy	2	For audit purposes, the colonoscopy report should include an explicit indication for the procedure, categorized according to existing guidelines on appropriateness of colonoscopy use.	93.80	4.3
COMPLETENESS of PROCEDURE	N2.1	Caecal intubation rate	1	Complete colonoscopy requires caecal intubation with complete visualization of the whole caecum and its landmarks.	100.00	4.9
				A service should have a minimum unadjusted caecal intubation rate of ≥90% and a target rate of ≥95% as a measure of the completeness of colonoscopy examination.	93.80	4.6
				Complete colonoscopy (caecal intubation) should be documented in both written form and a photo or video report.	100.00	4.8
IDENTIFICATION of PATHOLOGY	N3.1	Adenoma detection rate	1	Adenoma detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	100.00	4.7
IDENTIFICATION of PATHOLOGY	N3.2	Withdrawal time	2	A mean withdrawal time of at least 6 minutes should be used as a supportive measure of adequate identification of pathology at negative screening or diagnostic colonoscopy.	87.50	4.1
IDENTIFICATION of PATHOLOGY	N3.3	Polyp detection rate	2	Polyp detection rate should be used as a measure of adequate inspection at screening or diagnostic colonoscopy in patients aged 50 years or more.	84.60	4.1
MANAGEMENT of PATHOLOGY	N4.1	Adequate description of polyp morphology	2	Paris classification should be routinely used to describe the morphology of non-polypoid lesions identified at colonoscopy.	84.60	4.0
MANAGEMENT of PATHOLOGY	N4.2	Polyp retrieval rate	2	The non-diminutive polyp retrieval rate should be monitored. A service should have polyp retrieval rate of ≥90%.	86.70	4.3

ESGE QIC Lower GI Delphi voting process: Final performance measures

Domain	St. ID	Performance measure (PM)	KPM = 1, APM=2	Statement	Agreement [%]	Mean score
MANAGEMENT of PATHOLOGY	N4.3	Appropriate polypectomy technique	2	Adequate resection technique of small and diminutive colorectal polyps includes biopsy forceps removal of polyps ≤3 mm in size and snare polypectomy for larger polyps.	93.30	4.1
MANAGEMENT of PATHOLOGY	N4.4	Advanced imaging assessment	2	In patients undergoing removal of colorectal lesions with a depressed component (0-IIc according to the Paris classification) or non-granular or mixed-type laterally spreading tumours, conventional or virtual chromoendoscopy should be used to improve delineation of lesion margins and predict potential depth of invasion.	93.30	4.1
MANAGEMENT of PATHOLOGY	N4.5	Tattooing resection sites	1	In patients undergoing removal of lesions with a depressed component (0-IIc according to the Paris classification) or non-granular or mixed-type laterally spreading tumours located between ascending and sigmoid colon the resection site should be tattooed to improve future relocation of the resection site.	93.30	4.5
COMPLICATIONS	N5.1	Complication rate	1	In patients undergoing colonoscopy a 6-day readmission rate and 30-day mortality rate should be monitored using a reliable system.	93.80	4.3
COMPETENCE of ENDOSCOPISTS	N6.1	Competence assessment	1	Validated competence assessment tools should be used to document progress and proficiency level during colonoscopy training.	93.80	4.4
COMPETENCE of ENDOSCOPISTS	N6.2	Levels of competence in colonoscopy	2	All certified colonoscopists should have EU level 2 competence in colonoscopy (removal of sessile and stalked lesions <25 mm providing there is good access).	93.80	4.2
COMPETENCE of ENDOSCOPISTS	N6.3	Minimum number of colonoscopies	2	On average 300 colonoscopies are needed to achieve competence in caecal intubation.	92.30	4.2
PATIENT EXPERIENCE	N7.1	Patient experience	1	Patient experience during and after unsedated or moderately sedated colonoscopy or sigmoidoscopy should be routinely measured.	93.80	4.4
				Patient experience with colonoscopy or sigmoidoscopy should be self-reported by a patient using a validated scale.	93.80	4.5
POST-PROCEDURE	N8.1	Appropriate post-polypectomy surveillance recommendations	1	Adherence to post-polypectomy surveillance recommendations should be monitored. The reason for deviation from national/European guidelines should always be provided.	93.80	4.6