Supporting Information 2.

ESGE QIC Pancreatobiliray WG Delphi voting process

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ESGE QIC Pancreatobiliary WG Delphi Voting process: Clinical Questions

CQ ID	Clinical Question	Population	Intervention	Comparator	Outcome	Summary Documements Original ID	Group
1.1	Does experience of endoscopists influence the rate of deep cannulation of the common bile duct / pancreatic duct during ERCP in patients with native papillas?	Patients undergoing ERCP	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists	Success rate of cannulation	A I	Success rate of cannulation
1.17	Frequency with which cannulation of biliary duct in patients with native major papillae without surgically altered anatomy undergoing ERCP for extraction of common bile duct stones is achieved.	Patients with native major papillae without surgically altered anatomy undergoing ERCP	Deep cannulation of biliary duct	None	Achieved cannualtion rate	New PICO	Success rate of cannulation
1.2	Does experience of endoscopists influence the success rate of extraction of common bile duct (CBD)-stones of <1 cm during ERCP in patients with native papillas?	Patients with bile duct stones (synonym: choleodocholithiasis) undergoing ERCP	Patients with bile duct stones (synonym: choleodocholithiasis) undergoing ERCP	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	Stone extraction	A II	Stone extraction
1.18	Frequency with which extraction of common bile duct stones of <1cm in patients with native major papillae without surgically altered anatomy undergoing ERCP is achieved.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for extraction of common bile duct stones	Extraction of common bile duct stones of <1cm	None	Achieved extraction rate	New PICO	Stone extraction
1.3	Does experience of endoscopists influence the success rate of stent placement for biliary obstruction during ERCP - independent of the etiology of the stricture?	Patients with biliary (= bile duct) stenosis (synonym: common bile duct stricture)	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	Success rate of stent placement	A III (a)	Success rate of stent placement
1.4	Does experience of endoscopists influence the success rate of **stent placement for biliary *benign* obstruction**(e.g., cholangitis, pancreatitis, sclerosing papillitis, postoperative stenosis, stones) **during ERCP?**	Patients with benign biliary stenosis	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	Success rate of stent placement	A III (b)	Success rate of stent placement
1.5	Does experience of endoscopists influence the success rate of stent placement in patients with bile duct cancer?	Patients with bile duct cancer (synonym: extrahepatic biliary cancer)	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	Success rate of stent placement	A III (c)	Success rate of stent placement
1.6	Does experience of endoscopists influence the success rate of stent placement in patients with pancreatic cancer?	Patients with pancreatic cancer	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	Success rate of stent placement	A III (d)	Success rate of stent placement

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1.19	Frequency with which stent placement in patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the bifurcation is achieved.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the bifurcation	Stent placement	None	Achieved state placement rate	New PICO	Success rate of stent placement
1.7	Does experience of endoscopists influence the prevention of complications following ERCP (% of patients suffering from post-ERCP complications)?	Patients undergoing ERCP	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	Complications Post-ERCP complications (short term complications), e.g.: • bleeding (following sphincterotomy at ERCP, often immediately after sphincterotomy, sometimes also with delay if patient under anticoagulation-drugs) • perforation(usually happening during ERCP) • stent dislocation (migration, late complication) • post-ERCP pancreatitis (immediately after ERCP)	A IV	Post-ERCP complications
1.8	Does experience of endoscopists or teaching endoscopists in formal training programs(e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS),Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influence accurate *staging of esophageal cancer* (e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	Patients with eosphageal cancer undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS perfumed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Accurate staging of esophageal cancer (according to the UICC staging system)	A V (a)	Staging cancer during EUS
1.9	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influence accurate *staging of gastric cancer* (e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	Patients with gastric cancer undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Accurate staging of gastric cancer (according to the UICC staging system)	A V (b)	Staging cancer during EUS

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1.10	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM)influence accurate staging of pancreatic cancer(e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	Patients with pancreatic cancer undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Accurate staging of pancreatic cancer (according to the UICC staging system)	A V (c)	Staging cancer during EUS
1.11	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influences accurate staging of bile duct cancer(e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	Patients with bile duct cancer (synonym: extrahepatic biliary cancer) undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Accurate staging of bile duct cancer (according to the UICC staging system)	A V (d)	Staging cancer during EUS
1.12	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influences accurate staging of rectal cancer (e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	Patients with rectal cancer (synonym: extrahepatic biliary cancer) undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Accurate staging of rectal cancer (according to the UICC staging system)	A V (e)	Staging cancer during EUS
1.13	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM)influence the quality performance of EUS (% of examinations with well documented depiction of relevant structures, specific for the indication of EUS) ? (Esophageal cancer: visualization of the tumor, mediastinum (lymph nodes), gastroesophageal junction, celiac axis (lymph nodes) and left lobe of the liver (to rule out metastatic disease). Diseases of the pancreato-biliary system: Visualization of the entire pancreas (signs of chronic pancreatitis, pancreatic cyst) pancreatic duct, common bile duct (stricture, dilation, stones). Rectal cancer: visualization of the tumor :location, extension, infiltration of surrounding structures; visualization of surrounding structures: genitourinary structures, iliac vessels, sphincter apparatus, lymph nodes)	Patients undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Identification of defined landmarks	A VI	Identification of defined landmarks

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1.14	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM)influence the quality performance of EUS-FNA (adequate sampling (sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of solid masses (e.g. tumor, lymph node)?	Patients with solid masses (esophagus, mediastinum, stomach, pancreas, bile duct system, rectum: tumor, lymph nodes) undergoing EUS-FNA	EUS-FNA performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS-FNA performed by experienced endoscopist having undergone formal EUS training program OR EUS-FNA performed in high volume centers	EUS-FNA performed by inexperienced endoscopists OR EUS-FNA performed by an endoscopist without formal EUS training program OR EUS-FNA performed in non-high volume centers	Adequate sampling(sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of solid masses(diagnosing cancer vs. benign lesion)	A VII (a)	Adequate sampling of patients undergoing EUS-FNA
1.15	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM)influence the quality performance of EUS-FNA (adequate sampling (sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of inflammation (e.g., autoimmune pancreatitis)?	Patients with inflammation(e.g., autoimmune pancreatitis)undergoing EUS-FNA	EUS-FNA performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS-FNA performed by experienced endoscopist having undergone formal EUS training program OR EUS-FNA performed in high volume centers	EUS-FNA performed by inexperienced endoscopists OR EUS-FNA performed by an endoscopist without formal EUS training program OR EUS-FNA performed in non-high volume centers	Adequate sampling(sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of inflammation	A VII (b)	Identification of defined landmarks
1.16	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influence the management of patients undergoing EUS-FNA (e.g., tissue sampling of both primary tumor and lesion outside of primary field)?	Patients undergoing EUS-FNA	EUS-FNA performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS-FNA performed by experienced endoscopist having undergone formal EUS training program OR EUS-FNA performed in high volume centers	EUS-FNA performed by inexperienced endoscopists OR EUS-FNA performed by an endoscopist without formal EUS training program OR EUS-FNA performed in non-high volume centers	Percentage of examinations in which EUS-FNA would change the patient management (e.g., tissue sampling of both primary tumor and lesion outside of primary field)	A VIII	Management of patients undergoing EUS-FNA
1.20	Frequency with which EUS-FNP would change patients' management in patients with distant metastasis, ascites, and lymphadenopathy who undergo tissue sampling of both the primary tumor and lesion outside of the primary field.	Patients with distant metastasis, ascites, and lymphadenopathy undergoing EUS-guided FNA who have tissue sampling of both the primary tumor and lesions outside of the primary field	EUS fine needle biopsy	None	Percentage of patients in which EUS-FNA chnaged patients' management	New PICO	Management of patients undergoing EUS-FNA
1.21	Frequency of successful diagnostic tissue sampling in patients with solid lesions undergoing EUS-FNA.	Patients with solid lesions undergoing EUS-FNA	EUS fine needle biopsy	None	Diagnostic rate of adequate EUS-FNA sampling	New PICO	Diagnostic rate of adequate EUS-FNA sampling
2.1	Does the visualization of defined landmarks improve the quality of EUS in patients suffering from esophageal cancer?	Patients suffering from esophageal cancer undergoing EUS	Visualization of the tumor, mediastinum (lymph nodes), gastroesophageal junction, celiac axis (lymph nodes) and left lobe of the liver (to rule out metastatic disease)	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients’ management	B I (a)	Visualization of defined landmarks in EUS

ESGE QIC Pancreatobiliary WG Delphi Voting process: Clinical Questions

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2.2	Does the visualization of defined landmarks improve the quality of EUS in patients suffering from pancreatic cancer?	Patients suffering from pancreatic cancer undergoing EUS	Visualization of the entire pancreas, pancreatic mass (tumor, cancer), local lymph nodes (peripancreatic), celiac axis (lymph nodes) and left lobe of the liver and visible parts of the right lobe (to rule out metastatic disease), vascular infiltration: mesenteric artery, mesenteric vene, portal vein; infiltration of other peripancreatic organs.	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	B I (b)	Visualization of defined landmarks in EUS
2.3	Does the visualization of defined landmarks improve the quality of EUS in patients suffering from rectal cancer?	Patients suffering from rectal cancer undergoing EUS	Visualization of the tumor (location, extention, infiltration of surrounding structures). Visualization of surrounding structures: genitourinary structures, iliac vessels, sphincter apparatus, lymph nodes.	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	B I (c)	Visualization of defined landmarks in EUS
2.4	Does the visualization of defined landmarks improve the quality of EUS in patients with subepithelial gastric masses (synonym: submucosaltumor)?	Patients with subepithelial gastric masses (synonym: submucosaltumor)	Visualization of the mass (tumor) including the exact location within the gastric wall layer, differentiation of the wall layers, signs of infiltration, lymph nodes.	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	B I (d)	Visualization of defined landmarks in EUS
3.1	Administration of antibiotics in patients undergoing ERCP	Patients undergoing ERCP suffering from either • cholangitis • primary sclerosing cholangitis • biliary obstruction without cholangitis, successful placement of drainage/stent • biliary obstruction without cholangitis, unsuccessful placement of drainage/stent • pancreatic cyst / pseudocyst communicating with pancreatic duct	Administration of antibiotics	No administration of antibiotics	Preventing an inflammation	C I (a)	Administration of antibiotics in patients undergoing ERCP
3.2	Administration of antibiotics in patients undergoing EUS	Patients undergoing EUS including EUS-FNA suffering from either • EUS-FNA of solid masses in the upper GI-tract • EUS-FNA of solid masses in the lower GI-tract • EUS-FNA of cystic lesions	Administration of antibiotics	No administration of antibiotics	Preventing an inflammation	C I (b)	Administration of antibiotics in patients undergoing EUS

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3.3	Adding antibiotics to contrast media for prevention of cholangitis	Patients undergoing ERCP suffering from either • cholangitis • primary sclerosing cholangitis • biliary obstruction without cholangitis, successful placement of drainage/stent • biliary obstruction without cholangitis, unsuccessful placement of drainage/stent • pancreatic cyst / pseudocyst communicating with pancreatic duct • Independent of the indication for ERCP	Adding antibiotics to contrast media	No administration of antibiotics to contrast media	Preventing an inflammation	C I (c)	Antibiotics to contrast media for prevention of cholangitis
4.1	Risks of performing EUS-FNA in patients with unclear pancreatic masses.	Patients with unclear pancreatic mass / suspected pancreatic cancer undergoing EUS-FNA	Performing EUS-FNA to clarify the diagnosis	No EUS-FNA	Tumor spread, seeding metastases	D	EUS-FNA in patients with suspected pancreatic cancer

Statement ID	Clinical question (PICO) ID	Clinical Question	Recommended statement	Final Statement	Population	Intervention	Comparator	Outcome	Group
1.1	1.17	Frequency with which cannulation of biliary duct in patients with native major papillae without surgically altered anatomy undergoing ERCP for extraction of common bile duct stones is achieved.	In patients with normal anatomy and native papilla, successful bile duct cannulation should be achieved in 95% of cases using all available techniques	FINAL STATEMENT: In patients with normal anatomy and native papilla, successful bile duct cannulation should be achieved in 95% of cases using all available techniques.	Patients with native major papillae without surgically altered anatomy undergoing ERCP	Deep cannulation of biliary duct	None	Achieved cannualtion rate **> or = 85%**	Success rate of cannulation
1.2	1.1 moved	Does experience of endoscopists influence the rate of deep cannulation of the common bile duct / pancreatic duct during ERCP in patients with native papillas?	Trainees should achieve an 85% success rate of papillary cannulation after performing at least 200 ERCP procedures.	FINAL STATEMENT: Trainees need to achieve a success rate of at least 85% of ERCP procedures (on patients with normal anatomy) to achieve competence.	Patients undergoing ERCP	~~ERCP performed by experienced (n of procedures specialty or years of training) endoscopists~~ ~~OR~~ ERCP performed in high volume centers	~~ERCP performed by inexperienced endoscopists~~ CB: ERCP performed in non high case volume centres.	Success rate of cannulation	Success rate of cannulation
2.1	1.18 moved	Frequency with which extraction of common bile duct stones of <1cm in patients with native major papillae without surgically altered anatomy undergoing ERCP is achieved.	When cannulation is achieved, clearance of bile duct stones <10 mm is likely and exceeds 90% in patients without altered anatomy.	FINAL STATEMENT: After successful cannulation, clearance of bile stone of <10 mm should be achieved in 90% of cases.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for extraction of common bile duct stones	CB: CB: Extraction of common bile duct stones of less than 1 cm during ERCP in high case volume centres.	None	Achieved extraction rate >90%	Stone extraction
3.1	1.19 moved	Frequency with which stent placement in patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the bifurcation is achieved.	Following successful cannulation of a native papilla, stent insertion (both plastic and metal) for biliary obstruction below the hilum is achieved in > 95% of the cases without surgically altered anatomy.	FINAL STATEMENT: The frequency with which (plastic or metal) stent placement in patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the hilum should be >95% following successful cannulation of the papilla.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the bifurcation	Stent placement	None	95% Success rate of stent placement	Success rate of stent placement
4.1	1.7 moved	Does experience of endoscopists influence the prevention of complications following ERCP (% of patients suffering from post-ERCP complications)? NEW CLINICAL QUESTION: *Rate of adverse events in patients undergoing ERCP*		FINAL STATEMENT: The rate of post-ERCP pancreatitis in patients undergoing ERCP should be less than 10%.	Patients undergoing ERCP	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	~~Complications~~ **Adverse events** Post-ERCP complications (short term complications), e.g.: • bleeding (following sphincterotomy at ERCP, often immediately after sphincterotomy, sometimes also with delay if patient under anticoagulation-drugs) • perforation(usually happening during ERCP) • stent dislocation (migration, late complication) • post-ERCP pancreatitis (immediately after ERCP)	Post-ERCP complications
5.1	1.21 moved	Frequency of successful diagnostic tissue sampling in patients with solid lesions undergoing EUS-FNA.		FINAL STATEMENT: In patients with solid lesions undergoing EUS-FNA, the frequency of succession full diagnostic tissue sampling should be >90%.	Patients with solid lesions undergoing EUS-FNA	EUS fine needle biopsy	None	Diagnostic rate of adequate EUS-FNA sampling	Diagnostic rate of adequate EUS-FNA sampling

Statement ID	Clinical question (PICO) ID	Clinical Question	Recommended statement	Final Statement	Population	Intervention	Comparator	Outcome	Group
6.1	2.1 moved	Does the visualization of defined landmarks improve the quality of EUS in patients suffering from esophageal cancer? NEW CLINICAL QUESTION: *Frequency with which defined landmarks should be documented in patients undergoing EUS.*	*2.1 -2.4 to be combined*	FINAL STATEMENT: Appropriate landmarks should be documented in >90% of the cases in patients undergoing EUS.	Patients suffering from esophageal cancer undergoing EUS	Visualization of the tumor, mediastinum (lymph nodes), gastroesophageal junction, celiac axis (lymph nodes) and left lobe of the liver (to rule out metastatic disease)	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	Visualization of defined landmarks in EUS
7.1	3.1 moved	Administration of antibiotics in patients undergoing ERCP	ESGE recommend against routine antibiotics prophylaxis before ERCP in unselected patients (MODERATE QUALITY OF EVIDENCE). ESGE recommend to preserve antibiotic prophylaxis before ERCP for subgroup of patients with predicted incomplete biliary drainage (primary sclerosing cholangitis, hilar tumors) (MODERATE QUALITY OF EVIDENCE), in patients undergoing immunosuppression after liver transplantation (LOWQUALITY OF EVIDENCE) or in patients with pancreatic pseudocysts communicating with pancreatic duct (VERY LOW QUALITY OF EVIDENCE)	FINAL STATEMENT: ESGE recommend against routine antibiotics prophylaxis before ERCP in unselected patients (MODERATE QUALITY OF EVIDENCE). ESGE recommend to preserve antibiotic prophylaxis before ERCP for subgroup of patients with predicted incomplete biliary drainage (primary sclerosing cholangitis, hilar tumors) (MODERATE QUALITY OF EVIDENCE), in patients undergoing immunosuppression after liver transplantation (LOWQUALITY OF EVIDENCE) or in patients with pancreatic pseudocysts communicating with pancreatic duct (VERY LOW QUALITY OF EVIDENCE)	Patients undergoing ERCP suffering from either • cholangitis • primary sclerosing cholangitis • biliary obstruction without cholangitis, successful placement of drainage/stent • biliary obstruction without cholangitis, unsuccessful placement of drainage/stent • pancreatic cyst / pseudocyst communicating with pancreatic duct	Administration of antibiotics which ones, prophylactically, continuing after procedure?	No administration of antibiotics	Preventing an inflammation, / inflammatory pancreatitis post ERCP. ***>95% of cases of ERCP resulting in no post CP inflammation, infection, sepsis.***	Administration of antibiotics in patients undergoing ERCP
8.1	3.2 moved	Administration of antibiotics in patients undergoing EUS. NEW CLINICAL QUESTION: *Frequency with which antibiotics in patients undergoing EUS-guided punctures are administered.*		FINAL STATEMENT: Prophylactic antibiotic administration should be performed before EUS-guided puncture of cystic lesions in >95% of the cases. There is no recommendation for prophylactic administration of antibiotics before EUS-guided sampling of solid lesions.	Patients **(withcardiac conditions known to place them at higher risk of bacteraemia following EUS FNA)** undergoing EUS including EUS-FNA suffering from either • EUS-FNA of solid masses in the upper GI-tract • EUS-FNA of solid masses in the lower GI-tract • EUS-FNA of cystic lesions	Administration of antibiotics	No administration of antibiotics	Preventing an inflammation Post EUS FNA local infection Prevented in >95% of patients. Infective endocarditis /sepsis prevented in >95% of patients undergoing EUS FNA	Administration of antibiotics in patients undergoing EUS
9.1	1.14	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy" (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM)influence the quality performance of EUS-FNA (adequate sampling (sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of solid masses (e.g. tumor, lymph node)?	to be skipped??? - open for discussion		Patients with solid masses (esophagus, mediastinum, stomach, pancreas, bile duct system, rectum: tumor, lymph nodes) undergoing EUS-FNA	EUS-FNA performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS-FNA performed by experienced endoscopist having undergone formal EUS training program OR EUS-FNA performed in high volume centers	EUS-FNA performed by inexperienced endoscopists OR EUS-FNA performed by an endoscopist without formal EUS training program OR EUS-FNA performed in non-high volume centers	Adequate sampling(sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of solid masses(diagnosing cancer vs. benign lesion)	Adequate sampling of patients undergoing EUS-FNA

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na	1.2 moved	Does experience of endoscopists influence the success rate of extraction of common bile duct (CBD)-stones of <1 cm during ERCP in patients with native papillas?	skipped		Patients with bile duct stones (synonym: choleodocholithiasis) undergoing ERCP	~~Patients with bile duct stones (synonym: choleodocholithiasis) undergoing ERCP~~ User 2: Extraction of common bile duct stones of less than 1 cm during ERCP in high case volume centres.	~~ERCP performed by inexperienced endoscopists~~ ~~OR~~ ERCP performed in non-high volume centers	Stone extraction rates	Stone extraction
na	1.3	Does experience of endoscopists influence the success rate of stent placement for biliary obstruction during ERCP - independent of the etiology of the stricture?	skipped		Patients with biliary (= bile duct) stenosis (synonym: common bile duct stricture)	~~ERCP performed by experienced (n of procedures specialty or years of training) endoscopists~~ OR ERCP performed in high volume centers	~~ERCP performed by inexperienced endoscopists~~ ~~OR~~ ERCP performed in non-high volume centers	Success rate of stent placement AND >90% procedures performed in high case volume centres	Success rate of stent placement
na	1.4	Does experience of endoscopists influence the success rate of stent placement for biliary *benign* obstruction(e.g., cholangitis, pancreatitis, sclerosing papillitis, postoperative stenosis, stones) during ERCP?	skipped		Patients with benign biliary stenosis	~~ERCP performed by experienced (n of procedures specialty or years of training) endoscopists~~ ~~OR~~ ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	95% Success rate of stent placement	Success rate of stent placement
na	1.5	Does experience of endoscopists influence the success rate of stent placement in patients with bile duct cancer?	skipped		Patients with bile duct cancer (synonym: extrahepatic biliary cancer)	~~ERCP performed by experienced (n of procedures specialty or years of training) endoscopists~~ OR ERCP performed in high volume centers	~~ERCP performed by inexperienced endoscopists~~ ~~OR~~ ERCP performed in non-high volume centers	90% Success rate of stent placement	Success rate of stent placement
na	1.6	Does experience of endoscopists influence the success rate of stent placement in patients with pancreatic cancer?	skipped		Patients with pancreatic cancer	~~ERCP performed by experienced (n of procedures specialty or years of training) endoscopists~~ ~~OR~~ ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	95% Success rate of stent placement	Success rate of stent placement
na	1.8	Does experience of endoscopists or teaching endoscopists in formal training programs(e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS),Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influence accurate *staging of esophageal cancer* (e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	At UEG Week 2016 the WG decided that this will not be a recommendation but will be included in the text.		Patients with eosphageal cancer undergoing EUS	~~EUS performed by experienced (n of procedures specialty or years of training) endoscopists~~ ~~OR~~ EUS **performed** by experienced endoscopist having undergone formal EUS training program ~~OR~~ ~~EUS performed in high volume centers~~	~~EUS performed by inexperienced endoscopists~~ ~~OR~~ EUS performed by an endoscopist without formal EUS training program ~~OR~~ ~~EUS performed in non-high volume centers~~	90% of cancers accurately staged ~~Accurate staging of~~ esophageal cancer (according to the UICC staging system)	Staging cancer during EUS

Statement ID	Clinical question (PICO) ID	Clinical Question	Recommended statement	Final Statement	Population	Intervention	Comparator	Outcome	Group
na	1.9	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influence accurate *staging of gastric cancer* (e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	At UEG Week 2016 the WG decided that this will not be a recommendation but will be included in the text.		Patients with gastric cancer undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Accurate staging of gastric cancer (according to the UICC staging system). CB: I think the outcome here is percentage of endoscopists appropriately trained.	Staging cancer during EUS
na	1.10	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM)influence accurate staging of pancreatic cancer(e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	At UEG Week 2016 the WG decided that this will not be a recommendation but will be included in the text.		Patients with pancreatic cancer undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Accurate staging of pancreatic cancer (according to the UICC staging system)	Staging cancer during EUS
na	1.11	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influences accurate staging of bile duct cancer(e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	The WG decided that this will not be a recommendation but will be included in the text (meeting at UEG Week 2016).		Patients with bile duct cancer (synonym: extrahepatic biliary cancer) undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Accurate staging of bile duct cancer (according to the UICC staging system)	Staging cancer during EUS
na	1.12	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influences accurate staging of rectal cancer (e.g., T-staging, documentation of lymph nodes, vascular infiltration, distant metastases) during EUS?	The WG decided that this will not be a recommendation but will be included in the text (meeting at UEG Week 2016).		Patients with rectal cancer (synonym: extrahepatic biliary cancer) undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	Accurate staging of rectal cancer (according to the UICC staging system)	Staging cancer during EUS

Statement ID	Clinical question (PICO) ID	Clinical Question	Recommended statement	Final Statement	Population	Intervention	Comparator	Outcome	Group
na	1.13	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM)influence the quality performance of EUS (% of examinations with well documented depiction of relevant structures, specific for the indication of EUS) ? (Esophageal cancer: visualization of the tumor, mediastinum (lymph nodes), gastroesophageal junction, celiac axis (lymph nodes) and left lobe of the liver (to rule out metastatic disease). Diseases of the pancreato-biliary system: Visualization of the entire pancreas (signs of chronic pancreatitis, pancreatic cyst) pancreatic duct, common bile duct (stricture, dilation, stones). Rectal cancer: visualization of the tumor :location, extension, infiltration of surrounding structures; visualization of surrounding structures: genitourinary structures, iliac vessels, sphincter apparatus, lymph nodes)			Patients undergoing EUS	EUS performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS performed by experienced endoscopist having undergone formal EUS training program OR EUS performed in high volume centers	EUS performed by inexperienced endoscopists OR EUS performed by an endoscopist without formal EUS training program OR EUS performed in non-high volume centers	% Identification of defined landmarks	Identification of defined landmarks
na	1.15	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM)influence the quality performance of EUS-FNA (adequate sampling (sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of inflammation (e.g., autoimmune pancreatitis)?			Patients with inflammation(e.g., autoimmune pancreatitis)undergoing EUS-FNA	EUS-FNA performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS-FNA performed by experienced endoscopist having undergone formal EUS training program OR EUS-FNA performed in high volume centers	EUS-FNA performed by inexperienced endoscopists OR EUS-FNA performed by an endoscopist without formal EUS training program OR EUS-FNA performed in non-high volume centers	Adequate sampling(sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of inflammation	Identification of defined landmarks
na	1.16	Does experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influence the management of patients undergoing EUS-FNA (e.g., tissue sampling of both primary tumor and lesion outside of primary field)?	skipped		Patients undergoing EUS-FNA	EUS-FNA performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS-FNA performed by experienced endoscopist having undergone formal EUS training program OR EUS-FNA performed in high volume centers	EUS-FNA performed by inexperienced endoscopists OR EUS-FNA performed by an endoscopist without formal EUS training program OR EUS-FNA performed in non-high volume centers	Percentage of examinations in which EUS-FNA would change the patient management (e.g., tissue sampling of both primary tumor and lesion outside of primary field)	Management of patients undergoing EUS-FNA

Statement ID	Clinical question (PICO) ID	Clinical Question	Recommended statement	Final Statement	Population	Intervention	Comparator	Outcome	Group
na	1.20	Frequency with which EUS-FNP would change patients' management in patients with distant metastasis, ascites, and lymphadenopathy who undergo tissue sampling of both the primary tumor and lesion outside of the primary field.	skipped		Patients with distant metastasis, ascites, and lymphadenopathy undergoing EUS-guided FNA who have tissue sampling of both the primary tumor and lesions outside of the primary field	EUS fine needle biopsy	None	Percentage of patients in which EUS-FNA chnaged patients' management	Management of patients undergoing EUS-FNA
6.1	2.2	Does the visualization of defined landmarks improve the quality of EUS in patients suffering from pancreatic cancer?	*2.1 -2.4 to be combined*		Patients suffering from pancreatic cancer undergoing EUS	Visualization of the entire pancreas, pancreatic mass (tumor, cancer), local lymph nodes (peripancreatic), celiac axis (lymph nodes) and left lobe of the liver and visible parts of the right lobe (to rule out metastatic disease), vascular infiltration: mesenteric artery, mesenteric vene, portal vein; infiltration of other peripancreatic organs.	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	Visualization of defined landmarks in EUS
6.1	2.3	Does the visualization of defined landmarks improve the quality of EUS in patients suffering from rectal cancer?	*2.1 -2.4 to be combined*		Patients suffering from rectal cancer undergoing EUS	Visualization of the tumor (location, extention, infiltration of surrounding structures). Visualization of surrounding structures: genitourinary structures, iliac vessels, sphincter apparatus, lymph nodes.	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	Visualization of defined landmarks in EUS
6.1	2.4	Does the visualization of defined landmarks improve the quality of EUS in patients with subepithelial gastric masses (synonym: submucosaltumor)?	*2.1 -2.4 to be combined*		Patients with subepithelial gastric masses (synonym: submucosaltumor)	Visualization of the mass (tumor) including the exact location within the gastric wall layer, differentiation of the wall layers, signs of infiltration, lymph nodes.	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	Visualization of defined landmarks in EUS
na	3.3	Adding antibiotics to contrast media for prevention of cholangitis	to be skipped		Patients undergoing ERCP suffering from either • cholangitis • primary sclerosing cholangitis • biliary obstruction without cholangitis, successful placement of drainage/stent • biliary obstruction without cholangitis, unsuccessful placement of drainage/stent • pancreatic cyst / pseudocyst communicating with pancreatic duct • Independent of the indication for ERCP	Adding antibiotics to contrast media, which Antibiotics, during procedure only, continuing postprocedure?	No administration of antibiotics to contrast media	Preventing cholangitis in >95% of ERCP procedures employing contrast media.	Antibiotics to contrast media for prevention of cholangitis

ESGE QIC Pancreatobiliary WG Delphi Voting process: Statement recommendations

Statement ID	Clinical question (PICO) ID	Clinical Question	Recommended statement	Final Statement	Population	Intervention	Comparator	Outcome	Group
na	4.1	Risks of performing EUS-FNA in patients with unclear pancreatic masses.	to be skipped		Patients with unclear pancreatic mass / suspected pancreatic cancer undergoing EUS-FNA	Performing EUS-FNA to clarify the diagnosis	No EUS-FNA	Tumor spread, seeding metastases	EUS-FNA in patients with suspected pancreatic

Statement ID	Clinical question (PICO) ID	Statement	Population	Intervention	Comparator	Outcome	Group	Agreement [%]
1.1	1.17	In patients with normal anatomy and native papilla, successful bile duct cannulation should be achieved in 95% of cases using all available techniques.	Patients with native major papillae without surgically altered anatomy undergoing ERCP	Deep cannulation of biliary duct	None	Achieved cannualtion rate **> or = 85%**	Success rate of cannulation	55.6
1.2	1.1	Trainees need to achieve a success rate of at least 85% of ERCP procedures (on patients with normal anatomy) to achieve competence.	Patients undergoing ERCP	ERCP performed in high volume centers	ERCP performed in non high case volume centres.	Success rate of cannulation	Success rate of cannulation	77.8
2.1	1.18	After successful cannulation, clearance of bile stone of <10 mm should be achieved in 90% of cases.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for extraction of common bile duct stones.	Extraction of common bile duct stones of less than 1 cm during ERCP in high case volume centres.	None	Achieved extraction rate >90%	Stone extraction	88.9
3.1	1.19	The frequency with which (plastic or metal) stent placement in patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the hilum should be >95% following successful cannulation of the papilla.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the bifurcation	Stent placement	None	95% Success rate of stent placement	Success rate of stent placement	100
4.1	1.7	The rate of post-ERCP pancreatitis in patients undergoing ERCP should be less than 10%.	Patients undergoing ERCP	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	**Adverse events** Post-ERCP complications (short term complications), e.g.: • bleeding (following sphincterotomy at ERCP, often immediately after sphincterotomy, sometimes also with delay if patient under anticoagulation-drugs) • perforation(usually happening during ERCP) • stent dislocation (migration, late complication) • post-ERCP pancreatitis (immediately after ERCP)	Post-ERCP complications	88.9
5.1	1.21	In patients with solid lesions undergoing EUS-FNA, the frequency of succession full diagnostic tissue sampling should be >90%.	Patients with solid lesions undergoing EUS-FNA	EUS fine needle biopsy	None	Diagnostic rate of adequate EUS-FNA sampling	Diagnostic rate of adequate EUS-FNA sampling	66.7
6.1	2.1-2.4	Appropriate landmarks should be documented in >90% of the cases in patients undergoing EUS.	Patients suffering from esophageal cancer undergoing EUS	Visualization of the tumor, mediastinum (lymph nodes), gastroesophageal junction, celiac axis (lymph nodes) and left lobe of the liver (to rule out metastatic disease)	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	Visualization of defined landmarks in EUS	100
7.1	3.1	ESGE recommend against routine antibiotics prophylaxis before ERCP in unselected patients (MODERATE QUALITY OF EVIDENCE).	Patients undergoing ERCP suffering from either • cholangitis • primary sclerosing cholangitis • biliary obstruction without cholangitis, successful placement of drainage/stent • biliary obstruction without cholangitis, unsuccessful placement of drainage/stent • pancreatic cyst / pseudocyst communicating with pancreatic duct	Prophylactic administration of antibiotics	No administration of antibiotics	Preventing an inflammation, / inflammatory pancreatitis post ERCP. ***>95% of cases of ERCP resulting in no post CP inflammation, infection, sepsis.***	Administration of antibiotics in patients undergoing ERCP	87.5

Statement ID	Clinical question (PICO) ID	Statement	Population	Intervention	Comparator	Outcome	Group	Agreement [%]
7.2	3.1	ESGE recommend to preserve antibiotic prophylaxis before ERCP for subgroup of patients with predicted incomplete biliary drainage (primary sclerosing cholangitis, hilar tumors) (MODERATE QUALITY OF EVIDENCE), in patients undergoing immunosuppression after liver transplantation (LOWQUALITY OF EVIDENCE) or in patients with pancreatic pseudocysts communicating with pancreatic duct (VERY LOW QUALITY OF EVIDENCE)	Patients undergoing ERCP suffering from either • cholangitis • primary sclerosing cholangitis • biliary obstruction without cholangitis, successful placement of drainage/stent • biliary obstruction without cholangitis, unsuccessful placement of drainage/stent • pancreatic cyst / pseudocyst communicating with pancreatic duct	Prophylactic administration of antibiotics	No administration of antibiotics	Preventing an inflammation, / inflammatory pancreatitis post ERCP. ***>95% of cases of ERCP resulting in no post CP inflammation, infection, sepsis.***	Administration of antibiotics in patients undergoing ERCP	87.5
8.1	3.2	Prophylactic antibiotic administration should be performed before EUS-guided puncture of cystic lesions in >95% of the cases. There is no recommendation for prophylactic administration of antibiotics before EUS-guided sampling of solid lesions.	Patients (**with cardiac conditions known to place them at higher risk of bacteraemia following EUS FNA)** undergoing EUS including EUS-FNA suffering from either • EUS-FNA of solid masses in the upper GI-tract • EUS-FNA of solid masses in the lower GI-tract • EUS-FNA of cystic lesions	Administration of antibiotics	No administration of antibiotics	Preventing an inflammation Post EUS FNA local infection Prevented in >95% of patients. Infective endocarditis /sepsis prevented in >95% of patients undergoing EUS FNA	Administration of antibiotics in patients undergoing EUS	100
9.1	1.14	Experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy" (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influences the quality performance of EUS-FNA (adequate sampling (sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of solid masses (e.g. tumor, lymph node).	Patients with solid masses (esophagus, mediastinum, stomach, pancreas, bile duct system, rectum: tumor, lymph nodes) undergoing EUS-FNA	EUS-FNA performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS-FNA performed by experienced endoscopist having undergone formal EUS training program OR EUS-FNA performed in high volume centers	EUS-FNA performed by inexperienced endoscopists OR EUS-FNA performed by an endoscopist without formal EUS training program OR EUS-FNA performed in non-high volume centers	Adequate sampling(sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of solid masses(diagnosing cancer vs. benign lesion)	Adequate sampling of patients undergoing EUS-FNA	75

Statement ID	Clinical question (PICO) ID	Statement R1	Statement R2	Population	Intervention	Comparator	Outcome	Group	Agreement [%]
1.1	1.17	In patients with normal anatomy and native papilla, successful bile duct cannulation should be achieved in 95% of cases using all available techniques.	In patients with normal anatomy and native papilla, successful bile duct cannulation should be achieved in 90% of cases using all available techniques.	Patients with native major papillae without surgically altered anatomy undergoing ERCP	Deep cannulation of biliary duct	None	Achieved cannulation rate > or = 85%	Success rate of cannulation	100
1.2	1.1	Trainees need to achieve a success rate of at least 85% of ERCP procedures (on patients with normal anatomy) to achieve competence.	Trainees need to achieve a success rate of at least 85% of ERCP procedures (on patients with normal anatomy).	Patients undergoing ERCP	ERCP performed in high volume centers	ERCP performed in non high case volume centres.	Success rate of cannulation	Success rate of cannulation	80
N1.3	1.1		Trainees need to achieve a success rate of at least 85% of ERCP procedures (on patients with normal anatomy, including patients having previously undergone sphinterotomy).	Patients undergoing ERCP	ERCP performed in high volume centers	ERCP performed in non high case volume centres.	Success rate of cannulation	Success rate of cannulation	90
2.1	1.18	After successful cannulation, clearance of bile stone of <10 mm should be achieved in 90% of cases.	After successful cannulation, clearance of bile stone of <10 mm should be achieved in **at least** 90% of cases.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for extraction of common bile duct stones	Extraction of common bile duct stones of less than 1 cm during ERCP in high case volume centres.	None	Achieved extraction rate >90%	Stone extraction	90
3.1	1.19	The frequency with which (plastic or metal) stent placement in patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the hilum should be >95% following successful cannulation of the papilla.	After successful cannulation, stent placement should be achieved in >95% of cases in patients with biliary obstruction below the hilum.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the bifurcation	Stent placement	None	95% Success rate of stent placement	Success rate of stent placement	90
4.1	1.7	The rate of post-ERCP pancreatitis in patients undergoing ERCP should be less than 10%.	The rate of post-ERCP pancreatitis should be less than 10%.	Patients undergoing ERCP	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	**Adverse events** Post-ERCP complications (short term complications), e.g.: • bleeding (following sphincterotomy at ERCP, often immediately after sphincterotomy, sometimes also with delay if patient under anticoagulation-drugs) • perforation(usually happening during ERCP) • stent dislocation (migration, late complication) • post-ERCP pancreatitis (immediately after ERCP)	Post-ERCP complications	100
5.1	1.21	In patients with solid lesions undergoing EUS-FNA, the frequency of succession full diagnostic tissue sampling should be >90%.	In patients with solid lesions undergoing EUS-FNA, the frequency **of successfully obtaining a** full diagnostic tissue sample should be **>85%**.	Patients with solid lesions undergoing EUS-FNA	EUS fine needle biopsy	None	Diagnostic rate of adequate EUS-FNA sampling	Diagnostic rate of adequate EUS-FNA sampling	90
6.1	2.1-2.4	Appropriate landmarks should be documented in >90% of the cases in patients undergoing EUS.	Appropriate landmarks should be documented in >90% of the cases in patients undergoing EUS.	Patients suffering from esophageal cancer undergoing EUS	Visualization of the tumor, mediastinum (lymph nodes), gastroesophageal junction, celiac axis (lymph nodes) and left lobe of the liver (to rule out metastatic disease)	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	Visualization of defined landmarks in EUS	100

Statement ID	Clinical question (PICO) ID	Statement R1	Statement R2	Population	Intervention	Comparator	Outcome	Group	Agreement [%]
7.1	3.1	ESGE recommend against routine antibiotics prophylaxis before ERCP in unselected patients (MODERATE QUALITY OF EVIDENCE).	**Routine antibiotic prophylaxis is not recommended for ERCP in unselected patients.**	Patients undergoing ERCP suffering from either • cholangitis • primary sclerosing cholangitis • biliary obstruction without cholangitis, successful placement of drainage/stent • biliary obstruction without cholangitis, unsuccessful placement of drainage/stent • pancreatic cyst / pseudocyst communicating with pancreatic duct	Prophylactic administration of antibiotics	No administration of antibiotics	Preventing an **Infection**, / inflammatory pancreatitis post ERCP. *>95% of cases of ERCP resulting in no post CP inflammation, infection, sepsis.*	Administration of antibiotics in patients undergoing ERCP	80
7.2	3.1	ESGE recommend to preserve antibiotic prophylaxis before ERCP for subgroup of patients with predicted incomplete biliary drainage (primary sclerosing cholangitis, hilar tumors) (MODERATE QUALITY OF EVIDENCE), in patients undergoing immunosuppression after liver transplantation (LOWQUALITY OF EVIDENCE) or in patients with pancreatic pseudocysts communicating with pancreatic duct (VERY LOW QUALITY OF EVIDENCE)	**Antibiotic prophylaxis should be given before ERCP for subgroup of patients with predicted incomplete biliary drainage (primary sclerosing cholangitis, hilar tumors), IMMUNOcompromiseD for any reason, and in patients with pancreatic pseudocysts communicating with pancreatic duct.**	Patients undergoing ERCP suffering from either • cholangitis • primary sclerosing cholangitis • biliary obstruction without cholangitis, successful placement of drainage/stent • biliary obstruction without cholangitis, unsuccessful placement of drainage/stent • pancreatic cyst / pseudocyst communicating with pancreatic duct	Prophylactic administration of antibiotics	No administration of antibiotics	Preventing an **Infection**, / inflammatory pancreatitis post ERCP. *>95% of cases of ERCP resulting in no post CP* ***infection*** **,** ***inflammation*** *, sepsis.*	Administration of antibiotics in patients undergoing ERCP	100
8.1	3.2	Prophylactic antibiotic administration should be performed before EUS-guided puncture of cystic lesions in >95% of the cases. There is no recommendation for prophylactic administration of antibiotics before EUS-guided sampling of solid lesions.	**Prophylactic antibiotic administration should be performed before EUS-guided puncture of cystic lesions in >95% of the cases.**	Patients (with cardiac conditions known to place them at higher risk of bacteraemia following EUS FNA) undergoing EUS including EUS-FNA suffering from either • EUS-FNA of solid masses in the upper GI-tract • EUS-FNA of solid masses in the lower GI-tract • EUS-FNA of cystic lesions	Administration of antibiotics	No administration of antibiotics	Preventing an **Infection** Post EUS FNA local infection Prevented in >95% of patients. Infective endocarditis /sepsis prevented in >95% of patients undergoing EUS FNA	Administration of antibiotics in patients undergoing EUS	90
9.1	1.14	Experience of endoscopists or teaching endoscopists in formal training programs (e.g., GATE – „gastroenterological education-training endoscopy“ (DGVS), Principals of Training in Gastrointestinal Endoscopy (ASGE),EFSUMB, DEGUM) influences the quality performance of EUS-FNA (adequate sampling (sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of solid masses (e.g. tumor, lymph node).	**Experience of endoscopists or teaching in formal training programs influences the quality performance of EUS-FNA of solid masses.**	Patients with solid masses (esophagus, mediastinum, stomach, pancreas, bile duct system, rectum: tumor, lymph nodes) undergoing EUS-FNA	EUS-FNA performed by experienced (n of procedures specialty or years of training) endoscopists OR EUS-FNA performed by experienced endoscopist having undergone formal EUS training program OR EUS-FNA performed in high volume centers	EUS-FNA performed by inexperienced endoscopists OR EUS-FNA performed by an endoscopist without formal EUS training program OR EUS-FNA performed in non-high volume centers	Adequate sampling(sampling sufficient enough for quantity and quality, diagnostic rates, sensitivity, accuracy) of solid masses(diagnosing cancer vs. benign lesion)	Adequate sampling of patients undergoing EUS-FNA	80

Statement ID	Clinical question (PICO) ID	Domain	Performance measure	Statement	Population	Intervention	Comparator	Outcome	Group	Agreement [%]
7.2	3.1	Pre-procedure	Adequate antibiotic prophylaxis before ERCP	Routine antibiotic prophylaxis is not recommended for ERCP in unselected patients. Antibiotic prophylaxis should be given before ERCP for the subgroup of patients with predicted incomplete biliary drainage eg primary sclerosing cholangitis (PSC) and hilar tumors, in addition in immunocompromised individuals, and in patients with pancreatic pseudocysts communicating with the pancreatic duct.	Patients undergoing ERCP suffering from either • cholangitis • primary sclerosing cholangitis • biliary obstruction without cholangitis, successful placement of drainage/stent • biliary obstruction without cholangitis, unsuccessful placement of drainage/stent • pancreatic cyst / pseudocyst communicating with pancreatic duct	Prophylactic administration of antibiotics	No administration of antibiotics	Preventing an Infection, / inflammatory pancreatitis post ERCP. *>95% of cases of ERCP resulting in no post CP infection, inflammation, sepsis.*	Administration of antibiotics in patients undergoing ERCP	100
8.1	3.2	Pre-procedure	Antibiotic prophylaxis before EUS-guided puncture of cystic lesions	Prophylactic antibiotic administration should be performed before EUS-guided puncture of cystic lesions in >95% of the cases.	Patients (with cardiac conditions known to place them at higher risk of bacteraemia following EUS FNA) undergoing EUS including EUS-FNA suffering from either • EUS-FNA of solid masses in the upper GI-tract • EUS-FNA of solid masses in the lower GI-tract • EUS-FNA of cystic lesions	Administration of antibiotics	No administration of antibiotics	Preventing an Infection Post EUS FNA local infection Prevented in >95% of patients. Infective endocarditis /sepsis prevented in >95% of patients undergoing EUS FNA	Administration of antibiotics in patients undergoing EUS	90
1.1	1.17	Completeness of procedure	Bile duct cannulation rate	In patients with normal anatomy and native papilla, bile duct cannulation should be achieved in 90% of cases using all available techniques. ESGE guidance on different techniques is available	Patients with native major papillae without surgically altered anatomy undergoing ERCP	Deep cannulation of biliary duct	None	Achieved cannulation rate > or = 85%	Success rate of cannulation	100
5.1	1.21	Identification of pathology	Tissue sampling during EUS	In patients with solid lesions undergoing EUS-FNA, the frequency of btaining a full diagnostic tissue sample should be >85%.	Patients with solid lesions undergoing EUS-FNA	EUS fine needle biopsy	None	Diagnostic rate of adequate EUS-FNA sampling	Diagnostic rate of adequate EUS-FNA sampling	90
6.1	2.1-2.4	Identification of pathology	Adequate documentation of EUS landmarks	Appropriate landmarks should be documented in >90% of the cases in patients undergoing EUS.	Patients suffering from esophageal cancer undergoing EUS	Visualization of the tumor, mediastinum (lymph nodes), gastroesophageal junction, celiac axis (lymph nodes) and left lobe of the liver (to rule out metastatic disease)	Not to visualize the above mentioned landmarks	Accurate Staging, impact on patients' management	Visualization of defined landmarks in EUS	100
2.1	1.18	Management of pathology	Bile duct stone extraction	After successful cannulation, clearance of bile stones of <10 mm should be achieved in at least 90% of cases.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for extraction of common bile duct stones	Extraction of common bile duct stones of less than 1 cm during ERCP in high case volume centres.	None	Achieved extraction rate >90%	Stone extraction	90
3.1	1.19	Management of pathology	Appropriate stent placement in patients with biliary obstruction below the hilum	After successful cannulation, stent placement should be achieved in >95% of cases in patients with biliary obstruction below the hilum.	Patients with native major papillae without surgically altered anatomy undergoing ERCP for stent placement in cases of biliary obstruction below the bifurcation.	Stent placement	None	95% Success rate of stent placement	Success rate of stent placement	90

4.1	1.7	Adverse events and harms	Post ERCP pancreatitis	The rate of post-ERCP pancreatitis should be less than 10%.	Patients undergoing ERCP	ERCP performed by experienced (n of procedures specialty or years of training) endoscopists OR ERCP performed in high volume centers	ERCP performed by inexperienced endoscopists OR ERCP performed in non-high volume centers	Adverse events Post-ERCP complications (short term complications), e.g.: • bleeding (following sphincterotomy at ERCP, often immediately after sphincterotomy, sometimes also with delay if patient under anticoagulation-drugs) • perforation(usually happening during ERCP) • stent dislocation (migration, late complication) • post-ERCP pancreatitis (immediately after ERCP)	Post-ERCP complications	100