

Pancreatic Cancer in adults:

diagnosis and management

Appendix G

Excluded studies

31 July 2017

Draft for Consultation

*Developed by the National Guideline Alliance, hosted
by the Royal College of Obstetricians and
Gynaecologist*

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The recommendations in this guideline represent the view of NICE, arrived at after careful consideration of the evidence available. When exercising their judgement, professionals are expected to take this guideline fully into account, alongside the individual needs, preferences and values of their patients or service users. The recommendations in this guideline are not mandatory and the guideline does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian.

Local commissioners and/or providers have a responsibility to enable the guideline to be applied when individual health professionals and their patients or service users wish to use it. They should do so in the context of local and national priorities for funding and developing services, and in light of their duties to have due regard to the need to eliminate unlawful discrimination, to advance equality of opportunity and to reduce health inequalities. Nothing in this guideline should be interpreted in a way that would be inconsistent with compliance with those duties.

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1 Appendix G: Excluded studies

G.1.2 People with jaundice

Study	Reason for Exclusion
Admassie D, H/Yesus A, Denke A. Validity of ultrasonography in diagnosing obstructive jaundice. East Afr Med J. 2005 Jul;82(7):379-81.	PATIENTS were recruited before 2000 (1998-2000)
Aslanian, H. R., Estrada, J. D., Rossi, F., Dziura, J., Jamidar, P. A., Siddiqui, U. D., Endoscopic ultrasound and endoscopic retrograde cholangiopancreatography for obstructing pancreas head masses: combined or separate procedures?, Journal of Clinical Gastroenterology, 45, 711-3, 2011	No outcome data (this paper doesn't report sufficient data about the diagnostic specificity, sensitivity and accuracy)
Duraker, N., Hot, S., Polat, Y., Hobek, A., Gencler, N., Urhan, N., CEA, CA 19-9, and CA 125 in the differential diagnosis of benign and malignant pancreatic diseases with or without jaundice, Journal of Surgical Oncology, 95, 142-7, 2007	No index/reference test
Karki, S., Joshi, K. S., Regmi, S., Gurung, R. B., Malla, B., Role of ultrasound as compared with ERCP in patient with obstructive jaundice, Kathmandu University medical journal (KUMJ), 11, 237-40, 2013	Not relevant to the research question: this prospective study involves 88 jaundiced patients without a suspicion of having PC (the aim was too compare the role of ultrasound with ERCP and to determine the major causes of obstructive jaundice.
Marrelli, D., Caruso, S., Pedrazzani, C., Neri, A., Fernandes, E., Marini, M., Pinto, E., Roviello, F., CA19-9 serum levels in obstructive jaundice: clinical value in benign and malignant conditions, American journal of surgery, 198, 333-9, 2009	No relevant to the research question: no patients suspected of having PC
Mathew, R. P., Moorkath, A., Basti, R. S., Suresh, H. B., Value and accuracy of multidetector computed tomography in obstructive jaundice, Polish Journal of Radiology, 81, 303-309, 2016	No patients type (this prospective study involves 50 patients with with clinically suspected obstructive jaundice - pancreatic cancer was present only in 10 patients. The aim was to evaluate the diagnostic accuracy of MDCT in the evaluation of obstructive jaundice with regards to the level and cause of obstruction- differentiating between benign and malign masses- no pancreatic cancer)
Munigala, S., Tummala, P., Krishna, N. B., Agarwal, B., Prevalence of pancreatobiliary malignancy in patients presenting with obstructive jaundice and biliary stricture or mass lesion on CT/MRI scans and evaluation of EUS-FNA in their management, Gastrointestinal Endoscopy, 73, AB245, 2011	No publication type: conference abstract
Munir K, Bari V, Yaqoob J, Khan DB, Usman MU. The role of magnetic resonance cholangiopancreatography (MRCP) in obstructive jaundice. J Pak Med Assoc. 2004 Mar;54(3):128-32. PubMed PMID: 15129871.	Not relevant to the research question (no patients with suspected PC)
Singh, A., Mann, H. S., Thukral, C. L., Singh, N. R., Diagnostic accuracy of MRCP as compared to ultrasound/CT in patients with obstructive jaundice, Journal of Clinical and Diagnostic Research, 8, 103-7, 2014	Not relevant to the research question (no patients with suspected PC)

Study	Reason for Exclusion
Tonack, S., Jenkinson, C., Cox, T., Elliott, V., Jenkins, R. E., Kitteringham, N. R., Greenhalf, W., Shaw, V., Michalski, C. W., Friess, H., Neoptolemos, J. P., Costello, E., iTRAQ reveals candidate pancreatic cancer serum biomarkers: influence of obstructive jaundice on their performance, <i>British Journal of Cancer</i> Br J Cancer, 108, 1846-53, 2013	No index test of interest
Tummala, P., Munigala, S., Agarwal, B., EUS-FNA can obviate a large number of unnecessary surgeries while missing very few potentially resectable pancreatic cancers in jaundiced patients with suspected pancreatic cancer, <i>Pancreas</i> , 40, 1359, 2011	Conference abstract
Vaishali, M. D., Agarwal, A. K., Upadhyaya, D. N., Chauhan, V. S., Sharma, O. P., Shukla, V. K., Magnetic resonance cholangiopancreatography in obstructive jaundice, <i>Journal of clinical gastroenterology</i> , 38, 887-90, 2004	Not relevant to the research question: no patients suspected of having PC
Wang, S. B., Wu, H. B., Wang, Q. S., Zhou, W. L., Tian, Y., Ji, Y. H., Lv, L., 18F-FDG PET/CT in differentiating malignant from benign origins of obstructive jaundice, <i>Hepatobiliary and Pancreatic Diseases International</i> , 14, 516-522, 2015	85 people with clinical confirmation of obstructive jaundice - no with suspected pancreatic cancer. The aim was to evaluate the role of 18F-FDG PET/CT in differentiating malignant from benign origins of obstructive jaundice and to quantify the added value of 18F-FDG PET/CT over conventional imaging (enhanced CT and/or MRI))
Xing, G. S., Geng, J. C., Han, X. W., Dai, J. H., Wu, C. Y., Endobiliary brush cytology during percutaneous transhepatic cholangiodrainage in patients with obstructive jaundice, <i>Hepatobiliary and Pancreatic Diseases International</i> , 4, 98-103, 2005	Not relevant to the research question: no patients suspected of having PC

G.2.1 People without jaundice but with a pancreatic abnormality

Study	Reason for Exclusion
Abdallah, E. S. M., Ali, M. I. M., Awadallah, M. Y., El Ghawabi, H. S. H., Role of diffusion weighted imaging in characterization of pancreatic pathology, <i>Egyptian Journal of Radiology and Nuclear Medicine</i> , 47, 723-727, 2016	No relevant data
Affolter, K. E., Schmidt, R. L., Matynia, A. P., Adler, D. G., Factor, R. E., Needle size has only a limited effect on outcomes in EUS-guided fine needle aspiration: a systematic review and meta-analysis, <i>Digestive Diseases & Sciences</i> Dig Dis Sci, 58, 1026-34, 2013	No relevant data
Afify, A. M., al-Khafaji, B. M., Kim, B., Scheiman, J. M., Endoscopic ultrasound-guided fine needle aspiration of the pancreas. Diagnostic utility and accuracy, <i>Acta cytologica</i> , 47, 341-8, 2003	No data on whether lesions cystic/solid or both
Agarwal, B., Abu-Hamda, E., Molke, K. L., Correa, A. M., Ho, L., Endoscopic ultrasound-guided fine needle aspiration and multidetector spiral CT in the diagnosis of pancreatic cancer, <i>American Journal of Gastroenterology</i> , 99, 844-50, 2004	Most part of patients were included if the clinical suspicion of pancreatic cancer was based on (1) obstructive jaundice with biliary stricture seen on ERCP- n = 47)
Agarwal, B., Krishna, N. B., Labundy, J. L., Safdar, R., Akduman, E. I., EUS and/or EUS-guided FNA in patients with CT and/or magnetic resonance imaging findings of enlarged pancreatic head	Sample excludes patients with identifiable focal mass lesions

Study	Reason for Exclusion
or dilated pancreatic duct with or without a dilated common bile duct, <i>Gastrointestinal Endoscopy</i> , 68, 237-42; quiz 334, 335, 2008	
Aithal, G. P., Anagnostopoulos, G. K., Tam, W., Dean, J., Zaitoun, A., Kocjan, G., Ragnath, K., Pereira, S. P., EUS-guided tissue sampling: comparison of "dual sampling" (Trucut biopsy plus FNA) with "sequential sampling" (Trucut biopsy and then FNA as required), <i>Endoscopy</i> , 39, 725-30, 2007	Lesions identified by clinical findings
Alsibai, K. D., Denis, B., Bottlaender, J., Kleinclaus, I., Straub, P., Fabre, M., Impact of cytopathologist expert on diagnosis and treatment of pancreatic lesions in current clinical practice. A series of 106 endoscopic ultrasound-guided fine needle aspirations, <i>Cytopathology</i> , 17, 18-26, 2006	Unclear how lesion originally identified
Ardengh, J. C., Lopes, C. V., de Lima, L. F., de Oliveira, J. R., Venco, F., Santo, G. C., Modena, J. L., Diagnosis of pancreatic tumors by endoscopic ultrasound-guided fine-needle aspiration, <i>World Journal of Gastroenterology</i> , 13, 3112-6, 2007	Unclear how lesion originally identified
Banafea, O., Mghanga, F. P., Zhao, J., Zhao, R., Zhu, L., Endoscopic ultrasonography with fine-needle aspiration for histological diagnosis of solid pancreatic masses: a meta-analysis of diagnostic accuracy studies, <i>BMC Gastroenterology</i> <i>BMC Gastroenterol</i> , 16, 108, 2016	Checked, no additional relevant articles
Bang, J. Y., Hawes, R., Varadarajulu, S., A meta-analysis comparing ProCore and standard fine-needle aspiration needles for endoscopic ultrasound-guided tissue acquisition, <i>Endoscopy</i> <i>Endoscopy</i> , 48, 339-49, 2016	Checked articles, no additional relevant articles.
Berzosa, M., Villa, N., El-Serag, H. B., Sejjal, Patel, K. V., Comparison of endoscopic ultrasound guided 22-gauge core needle with standard 25-gauge fine-needle aspiration for diagnosing solid pancreatic lesions, <i>Endoscopic Ultrasound</i> , 4, 28-33, 2015	Provides data according to number of lesions rather than number of patients
Best, Lawrence Mj, Rawji, Vishal, Pereira, Stephen P, Davidson, Brian R, Gurusamy, Kurinchi Selvan, Imaging modalities for characterising focal pancreatic lesions, <i>Cochrane Database of Systematic Reviews</i> <i>Cochrane Database Syst Rev</i> , 2017	Checked, no additional relevant articles (mainly studies on cystic lesions)
Brandwein, S. L., Farrell, J. J., Centeno, B. A., Brugge, W. R., Detection and tumor staging of malignancy in cystic, intraductal, and solid tumors of the pancreas by EUS, <i>Gastrointestinal Endoscopy</i> , 53, 722-7, 2001	Unclear how lesion originally identified
Chang, J. C., Kundranda, M., Novel Diagnostic and Predictive Biomarkers in Pancreatic Adenocarcinoma, <i>International Journal of Molecular Sciences</i> <i>Int</i> , 18, 20, 2017	Not systematic review
Chen, G., Liu, S., Zhao, Y., Dai, M., Zhang, T., Diagnostic accuracy of endoscopic ultrasound-guided fine-needle aspiration for pancreatic cancer: a meta-analysis, <i>Pancreatol</i> , 13, 298-304, 2013	Includes studies on cystic lesions
Chen, J., Yang, R., Lu, Y., Xia, Y., Zhou, H., Diagnostic accuracy of endoscopic ultrasound-guided fine-needle aspiration for solid pancreatic lesion: a systematic review, <i>Journal of Cancer Research & Clinical Oncology</i> <i>J Cancer Res Clin Oncol</i> , 138, 1433-41, 2012	Checked all articles, no additional
Cherian, P. T., Mohan, P., Douiri, A., Taniere, P., Hejmadi, R. K., Mahon, B. S., Role of endoscopic ultrasound-guided fine-needle aspiration in the diagnosis of solid pancreatic and peripancreatic lesions: is onsite cytopathology necessary?, <i>HPB</i> , 12, 389-95, 2010	Sample includes patients with atypical history or symptoms and equivocal CT findings, those requiring definitive diagnosis though unresectable, and those unfit

Study	Reason for Exclusion
	for surgery. No data provided on number identified by means of identification.
Ding, X. W., Role of EUS-FNA for pancreatic mass, Journal of Digestive Diseases, 17, 58, 2016	Conference abstract
D'Onofrio, M., De Robertis, R., Barbi, E., Martone, E., Manfrin, E., Gobbo, S., Puntel, G., Bonetti, F., Pozzi Mucelli, R., Ultrasound-guided percutaneous fine-needle aspiration of solid pancreatic neoplasms: 10-year experience with more than 2,000 cases and a review of the literature, European radiology, 26, 1801-7, 2016	Includes studies on cystic lesions
Duskova, J., Krechler, T., Dvorak, M., Endoscopic ultrasound-guided fine needle aspiration biopsy of pancreatic lesions. An 8-year analysis of single institution material focusing on efficacy and learning progress, Cytopathology, 28, 109-115, 2017	Unclear how lesion originally identified and whether cystic/solid
Dyrła, P., Lubas, A., Gil, J., Niemczyk, S., Doppler tissue perfusion parameters in recognizing pancreatic malignant tumors, Journal of Gastroenterology & Hepatology, 31, 691-5, 2016	No relevant data
Eloubeidi, M. A., Chen, V. K., Eltoun, I. A., Jhala, D., Chhieng, D. C., Jhala, N., Vickers, S. M., Wilcox, C. M., Endoscopic ultrasound-guided fine needle aspiration biopsy of patients with suspected pancreatic cancer: diagnostic accuracy and acute and 30-day complications, American Journal of Gastroenterology, 98, 2663-8, 2003	Sample includes patients where lesion identified using clinical and/or imaging results. No separate data provided for imaging
Eloubeidi, M. A., Jhala, D., Chhieng, D. C., Chen, V. K., Eltoun, I., Vickers, S., Mel Wilcox, C., Jhala, N., Yield of endoscopic ultrasound-guided fine-needle aspiration biopsy in patients with suspected pancreatic carcinoma, Cancer, 99, 285-92, 2003	Sample includes patients where lesion identified using clinical and/or imaging results. No separate data provided for imaging
Eloubeidi, M. A., Tamhane, A., Prospective assessment of diagnostic utility and complications of endoscopic ultrasound-guided fine needle aspiration. Results from a newly developed academic endoscopic ultrasound program, Digestive Diseases, 26, 356-63, 2008	Patients included if tissue diagnosis required, failed ERCP/percutaneous CT/US-guided biopsy, or referred for EUS-FNA. Data not provided for separate means of identification.
Eloubeidi, M. A., Varadarajulu, S., Desai, S., Shirley, R., Heslin, M. J., Mehra, M., Arnoletti, J. P., Eltoun, I., Wilcox, C. M., Vickers, S. M., A prospective evaluation of an algorithm incorporating routine preoperative endoscopic ultrasound-guided fine needle aspiration in suspected pancreatic cancer, Journal of Gastrointestinal Surgery, 11, 813-9, 2007	49% of sample presented with obstructive jaundice
Erturk, S. M., Morteale, K. J., Tuncali, K., Saltzman, J. R., Lao, R., Silverman, S. G., Fine-needle aspiration biopsy of solid pancreatic masses: comparison of CT and endoscopic sonography guidance, AJR. American Journal of Roentgenology, 187, 1531-5, 2006	Unclear how lesion originally identified
Ezzat, N. E., Tahoun, N. S., Ismail, Y. M., The role of S100P and IMP3 in the cytologic diagnosis of pancreatic adenocarcinoma, Journal of Egyptian National Cancer Institute, 28, 229-234, 2016	No relevant biomarker.
Fabbri, C., Fuccio, L., Fornelli, A., Antonini, F., Liotta, R., Frazzoni, L., Larghi, A., Maimone, A., Paggi, S., Gusella, P., Barresi, L., Polifemo, A. M., Iovine, E., Macarri, G., Cennamo, V., Tarantino, I., The presence of rapid on-site evaluation did not increase the adequacy and diagnostic accuracy of endoscopic ultrasound-guided tissue acquisition of solid pancreatic lesions with core	Unclear how lesion originally identified

Study	Reason for Exclusion
needle, Surgical Endoscopy and Other Interventional Techniques, 31, 225-230, 2017	
Fisher, L., Segarajasingam, D. S., Stewart, C., Deboer, W. B., Yusoff, I. F., Endoscopic ultrasound guided fine needle aspiration of solid pancreatic lesions: Performance and outcomes, Journal of Gastroenterology & HepatologyJ Gastroenterol Hepatol, 24, 90-6, 2009	Unclear how lesion originally identified
Fritscher-Ravens, A., Izbicki, J. R., Sriram, P. V., Krause, C., Knoefel, W. T., Topalidis, T., Jaeckle, S., Thonke, F., Soehendra, N., Endosonography-guided, fine-needle aspiration cytology extending the indication for organ-preserving pancreatic surgery, American Journal of Gastroenterology, 95, 2255-60, 2000	Unclear how lesion originally identified
Fritscher-Ravens, A., Topalidis, T., Bobrowski, C., Krause, C., Thonke, E., Jackle, S., Soehendra, N., Endoscopic ultrasound-guided fine-needle aspiration in focal pancreatic lesions: a prospective intraindividual comparison of two needle assemblies, Endoscopy, 33, 484-90, 2001	Patients had both biopsies taken, data provided by assembly used
Furuhata, A., Minamiguchi, S., Shirahase, H., Kodama, Y., Adachi, S., Sakurai, T., Haga, H., Immunohistochemical Antibody Panel for the Differential Diagnosis of Pancreatic Ductal Carcinoma From Gastrointestinal Contamination and Benign Pancreatic Duct Epithelium in Endoscopic Ultrasound-Guided Fine-Needle Aspiration, PancreasPancreas, 18, 18, 2017	Unclear how lesion originally identified
Gress, F., Gottlieb, K., Sherman, S., Lehman, G., Endoscopic ultrasonography-guided fine-needle aspiration biopsy of suspected pancreatic cancer, Annals of Internal MedicineAnn Intern Med, 134, 459-64, 2001	No data on whether lesions cystic/solid or both
Gu, X., Liu, R., Application of 18F-FDG PET/CT combined with carbohydrate antigen 19-9 for differentiating pancreatic carcinoma from chronic mass-forming pancreatitis in Chinese elderly, Clinical Interventions In AgingClin Interv Aging, 11, 1365-1370, 2016	Unclear how lesion originally identified
Gupta, S., Mittal, A., Arion, R. K., Singal, R., Comparative evaluation of ultrasonography and computed tomography in pancreatic lesions, Journal of Medicine (Bangladesh), 17, 66-78, 2016	Unclear how lesion originally identified. Sample includes patients with any type of lesion.
Hashimoto, S., Taguchi, H., Higashi, M., Arima, S., Iwashita, Y., Sasaki, F., Nasu, Y., Kanmura, S., Ido, A., Risk factors for false-negative diagnosis of malignancy with liquid-based cytology for pancreatic solid lesions obtained by endoscopic ultrasound-guided fine needle aspiration, Journal of Gastroenterology and Hepatology (Australia), 31, 336-337, 2016	Conference abstract
Hashimoto, S., Taguchi, H., Higashi, M., Hatanaka, K., Fujita, T., Iwaya, H., Nakazawa, J., Arima, S., Iwashita, Y., Sasaki, F., Nasu, Y., Kanmura, S., Ido, A., Diagnostic efficacy of liquid-based cytology for solid pancreatic lesion samples obtained with endoscopic ultrasound-guided fine needle aspiration: A propensity score-matched analysis, Digestive EndoscopyDig, 03, 03, 2017	Unclear how lesion originally identified
Herrmann, K., Erkan, M., Dobritz, M., Schuster, T., Siveke, J. T., Beer, A. J., Wester, H. J., Schmid, R. M., Friess, H., Schwaiger, M., Kleeff, J., Buck, A. K., Comparison of 3'-deoxy-3'-[18F]fluorothymidine positron emission tomography (FLT PET) and FDG PET/CT for the detection and characterization of pancreatic tumours, European Journal of Nuclear Medicine & Molecular ImagingEur J Nucl Med Mol Imaging, 39, 846-51, 2012	No data provided on type of lesion/includes patients where lesion identified using ERCP; no separate data provided
Hewitt, M. J., McPhail, M. J., Possamai, L., Dhar, A., Vlavianos, P., Monahan, K. J., EUS-guided FNA for diagnosis of solid pancreatic neoplasms: a meta-analysis, Gastrointestinal	No additional articles

Study	Reason for Exclusion
Endoscopy, 75, 319-31, 2012	
Higashi, T., Saga, T., Nakamoto, Y., Ishimori, T., Fujimoto, K., Doi, R., Imamura, M., Konishi, J., Diagnosis of pancreatic cancer using fluorine-18 fluorodeoxyglucose positron emission tomography (FDG PET) --usefulness and limitations in "clinical reality", Annals of Nuclear Medicine, 17, 261-79, 2003	Narrative review
Hogendorf, P., Skulimowski, A., Durczynski, A., Kumor, A., Poznanska, G., Olesna, A., Rut, J., Strzelczyk, J., A Panel of CA19-9, Ca125, and Ca15-3 as the Enhanced Test for the Differential Diagnosis of the Pancreatic Lesion, Disease MarkersDis Markers, 2017, 8629712, 2017	No information on whether lesions are solid or cystic
Horwhat, J. D., Paulson, E. K., McGrath, K., Branch, M. S., Baillie, J., Tyler, D., Pappas, T., Enns, R., Robuck, G., Stiffler, H., Jowell, P., A randomized comparison of EUS-guided FNA versus CT or US-guided FNA for the evaluation of pancreatic mass lesions, Gastrointestinal Endoscopy, 63, 966-75, 2006	Sample includes patients where lesion identified by clinical evaluation, ERCP, US, MRI or CT. No separate data provided by means of identification
Hucl, T., Wee, E., Anuradha, S., Gupta, R., Ramchandani, M., Rakesh, K., Shrestha, R., Reddy, D. N., Lakhtakia, S., Feasibility and efficiency of a new 22G core needle: a prospective comparison study, Endoscopy, 45, 792-8, 2013	Unclear how lesion originally identified
Iglesias-Garcia, J., Lindkvist, B., Larino-Noia, J., Abdulkader-Nallib, I., Dominguez-Munoz, J. E., Differential diagnosis of solid pancreatic masses: contrast-enhanced harmonic (CEH-EUS), quantitative-elastography (QE-EUS), or both?, United European Gastroenterology Journal, 5, 236-246, 2017	Unclear how lesion originally identified
Ishiwatari, H., Hayashi, T., Kawakami, H., Isayama, H., Hisai, H., Itoi, T., Ono, M., Kawakubo, K., Yamamoto, N., Tanaka, M., Itokawa, F., Oshiro, H., Sonoda, T., Hasegawa, T., Randomized trial comparing a side-port needle and standard needle for EUS-guided histology of pancreatic lesions, Gastrointestinal EndoscopyGastrointest Endosc, 84, 670-678, 2017	Insufficient data
Itoi, T., Tsuchiya, T., Itokawa, F., Sofuni, A., Kurihara, T., Tsuji, S., Ikeuchi, N., Histological diagnosis by EUS-guided fine-needle aspiration biopsy in pancreatic solid masses without on-site cytopathologist: a single-center experience, Digestive Endoscopy, 23 Suppl 1, 34-8, 2011	Unclear how lesion originally identified
Jaray, B., Szekely, E., Basic cytomorphology of pancreatic lesions, Diagnostic Histopathology, 17, 293-300, 2011	Narrative review
Jeong, S. H., Yoon, H. H., Kim, E. J., Kim, Y. J., Kim, Y. S., Cho, J. H., High-resolution endoscopic ultrasound imaging and the number of needle passages are significant factors predicting high yield of endoscopic ultrasound-guided fine needle aspiration for pancreatic solid masses without an on-site cytopathologist, Medicine (United States), 96 (2) (no pagination), 2017	Unclear how lesion originally identified
Jiang, Z. M., Xie, D. R., Yang, Q., Chen, D. L., Bi, Z. F., Diagnostic performance of MUC1 for pancreatic ductal adenocarcinoma: A meta-analysis, Journal of Clinical OncologyJ Clin Oncol, 26, 15680, 2008	No relevant diagnostic test
Kitajima, K., Murakami, K., Yamasaki, E., Kaji, Y., Shimoda, M., Kubota, K., Suganuma, N., Sugimura, K., Performance of integrated FDG-PET/contrast-enhanced CT in the diagnosis of recurrent pancreatic cancer: comparison with integrated FDG-PET/non-contrast-enhanced CT and enhanced CT, Molecular Imaging & BiologyMol Imaging Biol, 12, 452-9, 2010	Study on PET/CT in assessment of recurrence of pancreatic cancer
Kitano, M., Komaki, T., Imai, H., Sakamoto, H., Takeyama, Y.,	Conference abstract

Study	Reason for Exclusion
Kudo, M., Contrast-enhanced harmonic endosonography in diagnosing pancreatic diseases, <i>Pancreatology</i> , 10, 22-23, 2010	
Kopelman, Y., Marmor, S., Ashkenazi, I., Fireman, Z., Value of EUS-FNA cytological preparations compared with cell block sections in the diagnosis of pancreatic solid tumours, <i>Cytopathology</i> , 22, 174-8, 2011	Unclear how lesion originally identified
Krishna, S. G., Rao, B. B., Ugbarugba, E., Shah, Z. K., Blaszczyk, A., Hinton, A., Conwell, D. L., Hart, P. A., Diagnostic performance of endoscopic ultrasound for detection of pancreatic malignancy following an indeterminate multidetector CT scan: a systemic review and meta-analysis, <i>Surgical Endoscopy</i> <i>Surg Endosc</i> , 04, 04, 2017	No relevant articles
Larghi, A., Verna, E. C., Stavropoulos, S. N., Rotterdam, H., Lightdale, C. J., Stevens, P. D., EUS-guided trucut needle biopsies in patients with solid pancreatic masses: A prospective study, <i>Gastrointestinal Endoscopy</i> , 59, 185-190, 2004	Sample included some patients with painless jaundice; no separate data for non-jaundiced patients
Latronico, A., Crosta, C., De Fiori, E., Carolei, A., Ravizza, D., Bellomi, M., Endoscopic ultrasound and Computed Tomography in the diagnosis, locoregional staging and assessment of vascular infiltration of pancreatic carcinoma, <i>Radiologia Medica</i> <i>Radiol Med (Torino)</i> , 109, 508-15, 2005	No separate data for solid lesions
Lemke, A. J., Niehues, S. M., Hosten, N., Amthauer, H., Boehmig, M., Stroszczyński, C., Rohlfing, T., Rosewicz, S., Felix, R., Retrospective digital image fusion of multidetector CT and 18F-FDG PET: clinical value in pancreatic lesions--a prospective study with 104 patients, <i>Journal of nuclear medicine : official publication, Society of Nuclear Medicine</i> , 45, 1279-86, 2004	No data provided on type of lesion; unclear how lesion originally identified
Lourenco, L. C., Oliveira, A., Rodrigues, C. G., Horta, D., Reis, J., Pontes, J. M., Deus, J. R., Endoscopic ultrasound-guided fine-needle aspiration of solid pancreatic masses: Impact on management strategy, <i>United European Gastroenterology Journal</i> , 2, A473, 2014	Conference abstract
Mallery, J. S., Centeno, B. A., Hahn, P. F., Chang, Y., Warsaw, A. L., Brugge, W. R., Pancreatic tissue sampling guided by EUS, CT/US, and surgery: a comparison of sensitivity and specificity, <i>Gastrointestinal Endoscopy</i> , 56, 218-24, 2002	Unclear how lesion originally identified
Matsumoto, K., Takeda, Y., Harada, K., Horie, Y., Yashima, K., Murawaki, Y., Effect of pancreatic juice cytology and/or endoscopic ultrasound-guided fine-needle aspiration biopsy for pancreatic tumor, <i>Journal of Gastroenterology & Hepatology</i> <i>J Gastroenterol Hepatol</i> , 29, 223-7, 2014	Unclear how lesion originally identified
Mavrogenis, G., Weynand, B., Sibille, A., Hassaini, H., Deprez, P., Gillain, C., Warzee, P., 25-gauge histology needle versus 22-gauge cytology needle in endoscopic ultrasonography-guided sampling of pancreatic lesions and lymphadenopathy, <i>Endoscopy International Open</i> , 3, E63-8, 2015	Unclear how lesions originally identified
Mayerle, J., Beyer, G., Simon, P., Dickson, E. J., Carter, R. C., Duthie, F., Lerch, M. M., McKay, C. J., Prospective cohort study comparing transient EUS guided elastography to EUS-FNA for the diagnosis of solid pancreatic mass lesions, <i>Pancreatology</i> , 16, 110-4, 2016	Conference abstract
Mertz, H. R., Sechopoulos, P., Delbeke, D., Leach, S. D., EUS, PET, and CT scanning for evaluation of pancreatic adenocarcinoma, <i>Gastrointestinal Endoscopy</i> , 52, 367-71, 2000	Unclear whether cystic or solid lesions
Mitsushashi, T., Ghafari, S., Chang, C. Y., Gu, M., Endoscopic ultrasound-guided fine needle aspiration of the pancreas:	Unclear how lesion originally identified

Study	Reason for Exclusion
cytomorphological evaluation with emphasis on adequacy assessment, diagnostic criteria and contamination from the gastrointestinal tract, <i>Cytopathology</i> , 17, 34-41, 2006	
Miura, F., Takada, T., Amano, H., Yoshida, M., Furui, S., Takeshita, K., Diagnosis of pancreatic cancer, <i>HPB</i> , 8, 337-42, 2006	Narrative review
Moller, K., Papanikolaou, I. S., Toermer, T., Delicha, E. M., Sarbia, M., Schenck, U., Koch, M., Al-Abadi, H., Meining, A., Schmidt, H., Schulz, H. J., Wiedenmann, B., Rosch, T., EUS-guided FNA of solid pancreatic masses: high yield of 2 passes with combined histologic-cytologic analysis, <i>Gastrointestinal Endoscopy</i> , 70, 60-9, 2009	Unclear how lesion originally identified
Nakajo, M., Kajiya, Y., Tani, A., Jinguji, M., Nihara, T., Fukukura, Y., Yoshiura, T., A pilot study of the diagnostic and prognostic values of FLT-PET/CT for pancreatic cancer: comparison with FDG-PET/CT, <i>Abdominal Radiology/Abdom Radiol</i> , 28, 28, 2016	Source of PC unclear
Oh, H. C., Kang, H., Diagnostic accuracy of 22/25-gauze core needle in endoscopic ultrasound-guided sampling of solid pancreatic lesions: Systematic review and meta-analysis, <i>Gastrointestinal Endoscopy</i> , 83, AB352, 2016	Checked, no additional relevant studies
Paik, W. H., Park, Y., Park, D. H., Hong, S. M., Lee, B. U., Choi, J. H., Lee, S. S., Seo, D. W., Lee, S. K., Kim, M. H., Prospective evaluation of new 22 gauge endoscopic ultrasound core needle using capillary sampling with stylet slow-pull technique for intra-abdominal solid masses, <i>Journal of Clinical Gastroenterology/J Clin Gastroenterol</i> , 49, 199-205, 2015	Unclear how lesion originally identified in 80% of sample
Park, J. K., Lee, Y. J., Lee, J. K., Lee, K. T., Choi, Y. L., Lee, K. H., KRAS mutation analysis of washing fluid from endoscopic ultrasound-guided fine needle aspiration improves cytologic diagnosis of pancreatic ductal adenocarcinoma, <i>Oncotarget/Oncotarget</i> , 8, 3519-3527, 2017	Unclear how lesion originally identified
Park, J. K., Paik, W. H., Song, B. J., Ryu, J. K., Kim, M. A., Park, J. M., Lee, S. H., Kim, Y. T., Additional K-ras mutation analysis and Plectin-1 staining improve the diagnostic accuracy of pancreatic solid mass in EUS-guided fine needle aspiration, <i>Oncotarget/Oncotarget</i> , 11, 11, 2017	Unclear how lesion originally identified
Popp, C., Michire-Stefana, A. D., Nichita, L., Micu, G., Barbuceanu, O., Busca, M. R., Neacsu, C., Pop, G., Rimbas, M., Zurac, S. A., Staniceanu, F., Endoscopic ultrasonography with fine needle aspiration (EUS-FNA) as essential tool in diagnosing advanced pancreatic neoplasms (PN), <i>Virchows Archiv</i> , 469, S164, 2016	Conference abstract
Puli, S. R., Bechtold, M. L., Buxbaum, J. L., Eloubeidi, M. A., How good is endoscopic ultrasound-guided fine-needle aspiration in diagnosing the correct etiology for a solid pancreatic mass?: A meta-analysis and systematic review, <i>Pancreas</i> , 42, 20-6, 2013	No additional studies
Qin, S., Jiang, H., Cell block technique and cytological smears for pancreatic neoplasms after EUS-FNA, <i>Journal of Gastroenterology and Hepatology</i> , 28, 250-251, 2013	Conference abstract
Raddaoui, E., Clinical utility and diagnostic accuracy of endoscopic ultrasound-guided fine needle aspiration of pancreatic lesions: Saudi Arabian experience, <i>Acta cytologica</i> , 55, 26-9, 2011	Unclear how lesion originally identified
Raut, C. P., Grau, A. M., Staerckel, G. A., Kaw, M., Tamm, E. P., Wolff, R. A., Vauthey, J. N., Lee, J. E., Pisters, P. W., Evans, D. B., Diagnostic accuracy of endoscopic ultrasound-guided fine-needle aspiration in patients with presumed pancreatic cancer,	Sample includes patients with suspected periampullary cancer

Study	Reason for Exclusion
Journal of Gastrointestinal SurgeryJ Gastrointest Surg, 7, 118-26; discussion 127-8, 2003	
Rickes, S., Unkrodt, K., Neye, H., Ocran, K. W., Wermke, W., Differentiation of pancreatic tumours by conventional ultrasound, unenhanced and echo-enhanced power Doppler sonography, Scandinavian journal of gastroenterology, 37, 1313-20, 2002	Less than 60% lesions identified using imaging
Rocca, R., De Angelis, C., Daperno, M., Carucci, P., Ravarino, N., Bruno, M., Crocella, L., Lavagna, A., Fracchia, M., Pacchioni, D., Masoero, G., Rigazio, C., Ercole, E., Sostegni, R., Motta, M., Bussolati, G., Torchio, B., Rizzetto, M., Pera, A., Endoscopic ultrasound-fine needle aspiration (EUS-FNA) for pancreatic lesions: effectiveness in clinical practice, Digestive & Liver DiseaseDig Liver Dis, 39, 768-74, 2007	Sample includes patients where lesion identified using imaging or clinical/biochemical findings. No separate data provided for imaging
Rosch, T., Schusdziarra, V., Born, P., Bautz, W., Baumgartner, M., Ulm, K., Lorenz, R., Allescher, H. D., Gerhardt, P., Siewert, J. R., Classen, M., Modern imaging methods versus clinical assessment in the evaluation of hospital in-patients with suspected pancreatic disease, American Journal of Gastroenterology, 95, 2261-70, 2000	Unclear why patients referred
Ryozawa, S., Kitoh, H., Gondo, T., Urayama, N., Yamashita, H., Ozawa, H., Yanai, H., Okita, K., Usefulness of endoscopic ultrasound-guided fine-needle aspiration biopsy for the diagnosis of pancreatic cancer, Journal of gastroenterology, 40, 907-11, 2005	Sample includes patients with cystic lesions; separate data for solid lesions not provided
Sakamoto, H., Kitano, M., Komaki, T., Noda, K., Chikugo, T., Dote, K., Takeyama, Y., Das, K., Yamao, K., Kudo, M., Prospective comparative study of the EUS guided 25-gauge FNA needle with the 19-gauge Trucut needle and 22-gauge FNA needle in patients with solid pancreatic masses, Journal of Gastroenterology & HepatologyJ Gastroenterol Hepatol, 24, 384-90, 2009	Unclear how lesion originally identified
Sanchez-Bueno, F., Garcia-Perez, R., Claver Valderas, M. A., de la Pena Moral, J., Frutos Esteban, L., Ortiz Ruiz, E., Fuster Quinonero, M., Parrilla Paricio, P., Utility of 18 fludeoxyglucose in preoperative positon-emission tomography-computed tomography (PET-CT) in the early diagnosis of exocrine pancreatic cancer: A study of 139 resected cases, Cirugia EspanolaCir Esp, 94, 511-517, 2016	Unclear source of PC
Santhosh, S., Mittal, B. R., Bhasin, D., Srinivasan, R., Rana, S., Das, A., Bhattacharya, A., Gupta, R., Kapoor, R., Nada, R., Role of 18 F-fluorodeoxyglucose positron emission tomography/computed tomography in the differentiation of benign from malignant pancreatic masses, Indian Journal of Gastroenterology, 30, A104-A105, 2011	31% of the included patients had periampullary mass
Santhosh, S., Mittal, B. R., Bhasin, D., Srinivasan, R., Rana, S., Das, A., Nada, R., Bhattacharya, A., Gupta, R., Kapoor, R., Role of (18)F-fluorodeoxyglucose positron emission tomography/computed tomography in the characterization of pancreatic masses: experience from tropics, Journal of Gastroenterology & HepatologyJ Gastroenterol Hepatol, 28, 255-61, 2013	31% of the included patients had periampullary mass
Schawkat, K., Kuhn, W., Inderbitzin, D., Gloor, B., Heverhagen, J. T., Runge, V. M., Christe, A., Diagnostic Value and Interreader Agreement of the Pancreaticolienal Gap in Pancreatic Cancer on MDCT, PLoS ONE [Electronic Resource]PLoS ONE, 11, e0166003, 2016	Unclear source of PC
Shah, S. M., Ribeiro, A., Levi, J., Jorda, M., Rocha-Lima, C., Sleeman, D., Hamilton-Nelson, K., Ganjei-Azar, P., Barkin, J., EUS-guided fine needle aspiration with and without trucut biopsy	Sample included patients with unresectable tumours and those with unclear imaging

Study	Reason for Exclusion
of pancreatic masses, Jop: Journal of the Pancreas [Electronic Resource]Jop, 9, 422-30, 2008	tests. No data by means of identification provided.
Shin, H. J., Lahoti, S., Sneige, N., Endoscopic ultrasound-guided fine-needle aspiration in 179 cases: the M. D. Anderson Cancer Center experience, Cancer, 96, 174-80, 2002	Unclear how lesion originally identified
Siddiqui, A. A., Brown, L. J., Hong, S. K., Draganova-Tacheva, R. A., Korenblit, J., Loren, D. E., Kowalski, T. E., Solomides, C., Relationship of pancreatic mass size and diagnostic yield of endoscopic ultrasound-guided fine needle aspiration, Digestive Diseases & SciencesDig Dis Sci, 56, 3370-5, 2011	Lesions identified by imaging, symptoms, or dilated duct; further details not provided
Sierzega, M., Mlynarski, D., Tomaszewska, R., Kulig, J., Semiquantitative immunohistochemistry for mucin (MUC1, MUC2, MUC3, MUC4, MUC5AC, and MUC6) profiling of pancreatic ductal cell adenocarcinoma improves diagnostic and prognostic performance, Histopathology, 69, 582-591, 2016	No relevant diagnostic test
Song, T. J., Kim, J. H., Lee, S. S., Eum, J. B., Moon, S. H., Park, D. Y., Seo, D. W., Lee, S. K., Jang, S. J., Yun, S. C., Kim, M. H., The prospective randomized, controlled trial of endoscopic ultrasound-guided fine-needle aspiration using 22G and 19G aspiration needles for solid pancreatic or peripancreatic masses, The American journal of gastroenterology, 105, 1739-45, 2010	No patients suspected of having PC because abnormalities on imaging
Storch, I., Jorda, M., Thurer, R., Raez, L., Rocha-Lima, C., Vernon, S., Ribeiro, A., Advantage of EUS Trucut biopsy combined with fine-needle aspiration without immediate on-site cytopathologic examination, Gastrointestinal Endoscopy, 64, 505-11, 2006	Unclear how lesion originally identified
Sultana, A., Jackson, R., Tim, G., Bostock, E., Psarelli, E. E., Cox, T. F., Sutton, R., Ghaneh, P., Raraty, M. G., Neoptolemos, J. P., Halloran, C. M., What Is the Best Way to Identify Malignant Transformation Within Pancreatic IPMN: A Systematic Review and Meta-Analyses, Clinical and Translational GastroenterologyClin Transl Gastroenterol, 6, e130, 2015	Review of IPMN studies
Tadic, M., Kujundzic, M., Stoos-Veic, T., Kaic, G., Vukelic-Markovic, M., Role of repeated endoscopic ultrasound-guided fine needle aspiration in small solid pancreatic masses with previous indeterminate and negative cytological findings, Digestive DiseasesDig Dis, 26, 377-82, 2008	Unclear how lesion originally identified
Takahashi, K., Yamao, K., Okubo, K., Sawaki, A., Mizuno, N., Ashida, R., Koshikawa, T., Ueyama, Y., Kasugai, K., Hase, S., Kakumu, S., Differential diagnosis of pancreatic cancer and focal pancreatitis by using EUS-guided FNA, Gastrointestinal Endoscopy, 61, 76-9, 2005	No patients suspected of having PC because of abnormalities on imaging
Tanimoto, K., Yoshikawa, K., Obata, T., Ikehira, H., Shiraishi, T., Watanabe, K., Saga, T., Mizoe, J., Kamada, T., Kato, A., Miyazaki, M., Role of glucose metabolism and cellularity for tumor malignancy evaluation using FDG-PET/CT and MRI, Nuclear medicine communications, 31, 604-9, 2010	No data for diagnosis of pancreatic cancer
Tummala, P., Tariq, S. H., Chibnall, J. T., Agarwal, B., Clinical predictors of pancreatic carcinoma causing acute pancreatitis, Pancreas, 42, 108-13, 2013	Study evaluated clinical findings suggestive of PC in patients with nonalcoholic nongallstone-related acute pancreatitis and evaluate accuracy of endoscopic ultrasound for diagnosing PC
Turner, B. G., Cizginer, S., Agarwal, D., Yang, J., Pitman, M. B., Brugge, W. R., Diagnosis of pancreatic neoplasia with EUS and FNA: a report of accuracy, Gastrointestinal Endoscopy, 71, 91-8,	Unclear how lesion originally identified

Study	Reason for Exclusion
2010	
Uehara, H., Ikezawa, K., Kawada, N., Fukutake, N., Katayama, K., Takakura, R., Takano, Y., Ishikawa, O., Takenaka, A., Diagnostic accuracy of endoscopic ultrasound-guided fine needle aspiration for suspected pancreatic malignancy in relation to the size of lesions, <i>Journal of Gastroenterology & Hepatology</i> J Gastroenterol Hepatol, 26, 1256-61, 2011	Insufficient data
Uehara, H., Sueyoshi, H., Takada, R., Fukutake, N., Katayama, K., Ashida, R., Ioka, T., Takenaka, A., Nagata, S., Tomita, Y., Optimal number of needle passes in endoscopic ultrasound-guided fine needle aspiration for pancreatic lesions, <i>Pancreatology</i> , 15, 392-6, 2015	Data provided by number of needle passes
Vanbiervliet, G., Napoléon, B., Saint Paul, M. C., Sakarovitch, C., Wangermez, M., Bichard, P., Subtil, C., Koch, S., Grandval, P., Gincul, R., Karsenti, D., Heyries, L., Duchmann, J. C., Bourgaux, J. F., Levy, M., Calament, G., Fumex, F., Pujol, B., Lefort, C., Poincloux, L., Pagenault, M., Bonin, E. A., Fabre, M., Barthet, M., Core needle versus standard needle for endoscopic ultrasound-guided biopsy of solid pancreatic masses: a randomized crossover study, <i>Endoscopy</i> , 46, 1063-70, 2014	Unclear how lesion originally identified
Varadarajulu, S., Tamhane, A., Eloubeidi, M. A., Yield of EUS-guided FNA of pancreatic masses in the presence or the absence of chronic pancreatitis, <i>Gastrointestinal Endoscopy</i> , 62, 728-36; quiz 751, 753, 2005	Sample includes patients referred for EUS-FNA based on findings from US, CT, ERCP and suggestive lab or tumour markers. No data provided by means of identification.
Voss, M., Hammel, P., Molas, G., Palazzo, L., Dancour, A., O'Toole, D., Terris, B., Degott, C., Bernades, P., Ruszniewski, P., Value of endoscopic ultrasound guided fine needle aspiration biopsy in the diagnosis of solid pancreatic masses, <i>Gut</i> , 46, 244-9, 2000	Unclear how lesion originally identified
Wiersema, M. J., Identifying contraindications to resection in patients with pancreatic carcinoma: the role of endoscopic ultrasound, <i>Canadian Journal of Gastroenterology</i> Can J Gastroenterol, 16, 109-14, 2002	Narrative review
Will, U., Mueller, A., Topalidis, T., Meyer, F., Value of endoscopic ultrasonography-guided fine needle aspiration (FNA) in the diagnosis of neoplastic tumor(-like) pancreatic lesions in daily clinical practice, <i>Ultraschall in der Medizin</i> , 31, 169-74, 2010	Sample includes patients with cystic lesions; no separate data for solid lesions
Wilson, J. L., Kalade, A., Prasad, S., Cade, R., Thomson, B., Banting, S., Mackay, S., Desmond, P. V., Chen, R. Y., Diagnosis of solid pancreatic masses by endoscopic ultrasound-guided fine-needle aspiration, <i>Internal Medicine Journal</i> , 39, 32-7, 2009	Unclear how lesion originally identified
Yang, J., Li, S., Li, J., Wang, F., Chen, K., Zheng, Y., Wang, J., Lu, W., Zhou, Y., Yin, Q., Zhang, H., Guo, C., A meta-analysis of the diagnostic value of detecting K-ras mutation in pancreatic juice as a molecular marker for pancreatic cancer, <i>Pancreatology</i> Pancreatology, 16, 605-14, 2016	Checked, no relevant articles
Yang, Y., Li, L., Qu, C., Liang, S., Zeng, B., Luo, Z., Endoscopic ultrasound-guided fine needle core biopsy for the diagnosis of pancreatic malignant lesions: a systematic review and Meta-Analysis, <i>Scientific Reports</i> Sci, 6, 22978, 2016	Checked, included Bang et al. 2012, Lee et al. 2014 and Ramesh et al. 2014.
Ylagan, L. R., Edmundowicz, S., Kasal, K., Walsh, D., Lu, D. W., Endoscopic ultrasound guided fine-needle aspiration cytology of pancreatic carcinoma: a 3-year experience and review of the	Unclear how lesion originally identified

Study	Reason for Exclusion
literature, Cancer, 96, 362-9, 2002	
Zhang, S., Defrias, D. V., Alasadi, R., Nayar, R., Endoscopic ultrasound-guided fine needle aspiration (EUS-FNA): experience of an academic centre in the USA, Cytopathology, 21, 35-43, 2010	Unclear how lesion originally identified
Zhang, T. T., Wang, L., Liu, H. H., Zhang, C. Y., Li, X. M., Lu, J. P., Wang, D. B., Differentiation of pancreatic carcinoma and mass-forming focal pancreatitis: qualitative and quantitative assessment by dynamic contrast-enhanced MRI combined with diffusion-weighted imaging, OncotargetOncotarget, 8, 1744-1759, 2017	Unclear how lesions originally identified

G.3.1 Pancreatic Cysts

Study	Reason for exclusion
Aithal, G. P., Chen, R. Y., Cunningham, J. T., Durkalski, V., Kim, E. Y., Patel, R. S., Wallace, M. B., Hawes, R. H., Hoffman, B. J., Accuracy of EUS for detection of intraductal papillary mucinous tumor of the pancreas, Gastrointestinal Endoscopy, 56, 701-7, 2002	No sample size: < 50 patients (n=34)
Aljebreen, A. M., Romagnuolo, J., Perini, R., Sutherland, F., Utility of endoscopic ultrasound, cytology and fluid carcinoembryonic antigen and CA 19-9 levels in pancreatic cystic lesions, World Journal of Gastroenterology, 13, 3962-6, 2007	No sample size: < 50 patients (n=46)
Anand, N., Sampath, K., Wu, B. U., Cyst features and risk of malignancy in intraductal papillary mucinous neoplasms of the pancreas: a meta-analysis, Clinical Gastroenterology & HepatologyClin Gastroenterol Hepatol, 11, 913-21; quiz e59-60, 2013	No index test: was about the risk of malignancy having IPMNS more than a diagnostic review
Atef, E., El Nakeeb, A., El Hanafy, E., El Hemaly, M., Hamdy, E., El-Geidie, A., Pancreatic cystic neoplasms: predictors of malignant behavior and management, Saudi Journal of GastroenterologySaudi j, 19, 45-53, 2013	No diagnostic study
Attasaranya, S., Pais, S., LeBlanc, J., McHenry, L., Sherman, S., DeWitt, J. M., Endoscopic ultrasound-guided fine needle aspiration and cyst fluid analysis for pancreatic cysts, Jop: Journal of the Pancreas [Electronic Resource]Jop, 8, 553-63, 2007	No sample size: < 50 patients (n=48)
Baba T, Yamaguchi T, Ishihara T, Kobayashi A, Oshima T, et al. Distinguishing benign from malignant intraductal papillary mucinous tumours of the pancreas by imaging techniques. Pancreas. 2004 Oct;29(3):212-7.	This study was fitting the search question for this review (distinguishing benign from malignant intraductal papillary mucinous tumours of the pancreas by imaging techniques), but did not report sufficient data
Barresi, L., Tarantino, I., Traina, M., Granata, A., Curcio, G., Azzopardi, N., Baccarini, P., Liotta, R., Fornelli, A., Maimone, A., Jovine, E., Cennamo, V., Fabbri, C., Endoscopic ultrasound-guided fine needle aspiration and biopsy using a 22-gauge needle with side fenestration in pancreatic cystic lesions, Digestive & Liver DiseaseDig Liver Dis, 46, 45-50, 2014	No index test (EUS-FNA using a 22-gauge needle with side fenestration)
Belsley, N. A., Pitman, M. B., Lauwers, G. Y., Brugge, W. R., Deshpande, V., Serous cystadenoma of the pancreas: limitations and pitfalls of endoscopic ultrasound-guided fine-needle aspiration biopsy, Cancer, 114, 102-10, 2008	No sample size: < 50 patients (n=9)
Best LM, Rawji V, Pereira SP, Davidson BR, Gurusamy KS.	All evidence has been already

Study	Reason for exclusion
Imaging modalities for characterising focal pancreatic lesions. Cochrane Database Syst Rev. 2017 17;4:CD010213	included. References have been checked for relevancy, and 5 additional studies have been identified from this COCHRANE REVIEW
Beyer-Enke SA, Hocke M, Ignee A, Braden B, Dietrich CF. Contrast enhanced transabdominal ultrasound in the characterisation of pancreatic lesions with cystic appearance. JOP. 2010 Sep 6;11(5):427-33.	No relevant to the PICO (this study evaluates the differentiation between pseudocysts and pancreatic neoplasia (including both Benign and malignant lesions) in comparison to the conventional EUS
Bick, B. L., Enders, F. T., Levy, M. J., Zhang, L., Henry, M. R., Abu Dayyeh, B. K., Chari, S. T., Clain, J. E., Farnell, M. B., Gleeson, F. C., Kendrick, M. L., Pearson, R. K., Petersen, B. T., Rajan, E., Vege, S. S., Topazian, M., The string sign for diagnosis of mucinous pancreatic cysts, Endoscopy, 47, 626-31, 2015	No index test (string sign test)
Brandwein, S. L., Farrell, J. J., Centeno, B. A., Brugge, W. R., Detection and tumor staging of malignancy in cystic, intraductal, and solid tumours of the pancreas by EUS, Gastrointestinal Endoscopy, 53, 722-7, 2001	No patients type (no patients with pc: patients with pancreaticobiliary tract neoplasms)
Brugge, W. R., Role of endoscopic ultrasound in the diagnosis of cystic lesions of the pancreas, Pancreatology, 1, 637-40, 2001	No diagnostic study
Campbell, N. M., Katz, S. S., Escalon, J. G., Do, R. K., Imaging patterns of intraductal papillary mucinous neoplasms of the pancreas: An illustrated discussion of the International Consensus Guidelines for the Management of IPMN, Abdominal Imaging, 40, 663-677, 2014	No diagnostic study
Choi, B. S., Kim, T. K., Kim, A. Y., Kim, K. W., Park, S. W., Kim, P. N., Ha, H. K., Lee, M. G., Kim, S. C., Differential diagnosis of benign and malignant intraductal papillary mucinous tumours of the pancreas: MR cholangiopancreatography and MR angiography, Korean journal of radiology : official journal of the Korean Radiological Society, 4, 157-162, 2003	No sample size: < 50 patients (this study includes 46 patients with IPMT)
Chvatalova, T., Martinek, J., Zavada, F., Zavoral, M., Pancreatic cystic tumours: A single centre retrospective study, Pancreatology, 12, 554-555, 2012	Conference abstract: insufficient information
Cone MM, Rea JD, Diggs BS et al. Endoscopic ultrasound may be unnecessary in the preoperative evaluation of intraductal papillary mucinous neoplasm. HPB (Oxford) 2011; 13: 112–116.	No relevant to the PICO (this study included patients with high-grade dysplasia (HGD) and cancer within pancreatic IPMN (mixed population)
de Jong, K., van Hooft, J. E., Nio, C. Y., Gouma, D. J., Dijkgraaf, M. G., Bruno, M. J., Fockens, P., Accuracy of preoperative workup in a prospective series of surgically resected cystic pancreatic lesions, Scandinavian journal of gastroenterology, 47, 1056-63, 2012	No sample size: < 50 patients (n=32)
Delavaud, C., d'Assignies, G., Cros, J., Ruzsiewicz, P., Hammel, P., Levy, P., Couvelard, A., Sauvanet, A., Dokmak, S., Vilgrain, V., Vullierme, M. P., CT and MR imaging of multilocular acinar cell cystadenoma: comparison with branch duct intraductal papillary mucinous neoplasia (IPMNs), European radiology, 24, 2128-36, 2014	No sample size: < 50 patients (n=24)

Study	Reason for exclusion
D'Onofrio, M., Biagioli, E., Gerardi, C., Canestrini, S., Rulli, E., Crosara, S., De Robertis, R., Floriani, I., Diagnostic performance of contrast-enhanced ultrasound (CEUS) and contrast-enhanced endoscopic ultrasound (ECEUS) for the differentiation of pancreatic lesions: a systematic review and meta-analysis, <i>Ultraschall in der Medizin</i> , 35, 515-21, 2014	No English
Emerson, R. E., Randolph, M. L., Cramer, H. M., Endoscopic ultrasound-guided fine-needle aspiration cytology diagnosis of intraductal papillary mucinous neoplasm of the pancreas is highly predictive of pancreatic neoplasia, <i>Diagnostic cytopathology</i> , 34, 457-62, 2006	No sample size: < 50 patients (20 patients)
Fatima, Z., Ichikawa, T., Motosugi, U., Muhi, A., Sano, K., Sou, H., Haradome, H., Kiryu, S., Araki, T., Magnetic resonance diffusion-weighted imaging in the characterization of pancreatic mucinous cystic lesions, <i>Clinical Radiology</i> , 66, 108-11, 2011	No index test (magnetic resonance diffusion-weighted imaging)
Fusaroli P, Serrani M, De Giorgio R, D'Ercole MC, Ceroni L, et al. Contrast Harmonic-Endoscopic Ultrasound Is Useful to Identify Neoplastic Features of Pancreatic Cysts (With Videos). <i>Pancreas</i> . 2016 ;45(2):265-8.	no reference standard: The final diagnosis was established by surgical pathology (gold standard) or by a combination of clinical history, EUS morphology, cytology, and biochemical markers (including CEA and amylase assay) on EUS-FNA specimen, along with a monthly follow-up (surrogate gold standard).
Genevay, M., Mino-Kenudson, M., Yaeger, K., Konstantinidis, I. T., Ferrone, C. R., Thayer, S., Castillo, C. F., Sahani, D., Bounds, B., Forcione, D., Brugge, W. R., Pitman, M. B., Cytology adds value to imaging studies for risk assessment of malignancy in pancreatic mucinous cysts, <i>Annals of Surgery</i> , 254, 977-83, 2011	Morphological features of the cysts as predictors of malignancy
Gillis, A., Cipollone, I., Cousins, G., Conlon, K., Does EUS-FNA molecular analysis carry additional value when compared to cytology in the diagnosis of pancreatic cystic neoplasm? A systematic review, <i>HPB</i> , 17, 377-86, 2015	No index test: molecular analysis of cystic fluid obtained through EUS-FNA of pancreatic cystic lesions
Grobmyer, S. R., Cance, W. G., Copeland, E. M., Vogel, S. B., Hochwald, S. N., Is there an indication for initial conservative management of pancreatic cystic lesions?, <i>Journal of Surgical Oncology</i> , 100, 372-4, 2009	No sample size: < 50 patients (cyst fluid cytology was performed in 41 patients)
Haab, B. B., Porter, A., Schmidt, M., Lee, C. J., Barnes, D., Simeone, D., Glycosylation variants on mucins as candidate markers for the diagnosis of pancreatic cystic neoplasms, <i>Pancreas</i> , 37, 472-473, 2008	No index test (novel test: antibody-lectin sandwich microarray)
Hutchins, G. F., Draganov, P. V., Cystic neoplasms of the pancreas: a diagnostic challenge, <i>World Journal of Gastroenterology</i> , 15, 48-54, 2009	No outcome data (no sensitivity and specificity data reported)
Inan, N., Arslan, A., Akansel, G., Anik, Y., Demirci, A., Diffusion-weighted imaging in the differential diagnosis of cystic lesions of the pancreas, <i>AJR. American Journal of Roentgenology</i> , 191, 1115-21, 2008	No sample size: < 50 patients (n=42)
Jones MJ, Buchanan AS, Neal CP, Dennison AR, Metcalfe MS, et al. Imaging of indeterminate pancreatic cystic lesions: a systematic review. <i>Pancreatology</i> . 2013 Jul-Aug;13(4):436-42.	This MA has been excluded from the analysis, but it has been checked for relevant studies
Kadayifci A, Atar M, Basar O, Forcione DG, Brugge WR.	No sample size: < 50 patients

Study	Reason for exclusion
Needle-Based Confocal Laser Endomicroscopy for Evaluation of Cystic Neoplasms of the Pancreas. Dig Dis Sci. 2017 ;62(5):1346-1353	(n=20)
Kawaguchi, Y., Mine, T., Endoscopic approach to the diagnosis of pancreatic cystic tumor, World Journal of Gastrointestinal OncologyWorld J Gastrointest Oncol, 8, 159-64, 2016	No outcome data (no sensitivity and specificity data reported)
Khalid, A., McGrath, K. M., Zahid, M., Wilson, M., Brody, D., Swalsky, P., Moser, A. J., Lee, K. K., Slivka, A., Whitcomb, D. C., Finkelstein, S., The role of pancreatic cyst fluid molecular analysis in predicting cyst pathology, Clinical Gastroenterology & HepatologyClin Gastroenterol Hepatol, 3, 967-73, 2005	No sample size: < 50 patients (27 patients)
Khalid, A., Zahid, M., Finkelstein, S. D., LeBlanc, J. K., Kaushik, N., Ahmad, N., Brugge, W. R., Edmundowicz, S. A., Hawes, R. H., McGrath, K. M., Pancreatic cyst fluid DNA analysis in evaluating pancreatic cysts: a report of the PANDA study, Gastrointestinal Endoscopy, 69, 1095-102, 2009	No index test (this study evaluates the utility of a detailed DNA analysis of pancreatic cyst fluid to diagnose mucinous and malignant cysts)
Kim M, Mi Jang K, Kim SH, Doo Song K, Jeong WK, et al. Diagnostic accuracy of diffusion restriction in intraductal papillary mucinous neoplasm of the pancreas in comparison with "high-risk stigmata" of the 2012 international consensus guidelines for prediction of the malignancy and invasiveness. Acta Radiol. 2017;:284185116685921	no index test of interest: diffusion-weighted imaging
Kim, J. H., Hong, S. S., Kim, Y. J., Kim, J. K., Eun, H. W., Intraductal papillary mucinous neoplasm of the pancreas: differentiate from chronic pancreatitis by MR imaging, European Journal of Radiology, 81, 671-6, 2012	No patients type (MR imaging was performed on 33, consecutive patients with IPMN and on 41 patients with chronic pancreatitis)
Kim, K. W., Park, S. H., Pyo, J., Yoon, S. H., Byun, J. H., Lee, M. G., Krajewski, K. M., Ramaiya, N. H., Imaging features to distinguish malignant and benign branch-duct type intraductal papillary mucinous neoplasms of the pancreas: a meta-analysis, Annals of Surgery, 259, 72-81, 2014	No outcome (this MA pooled together the finding of 19 studies to assess the morphological features of bd-IPMNS - references have been checked for relevant studies)
Kobayashi, N., Sugimori, K., Shimamura, T., Hosono, K., Watanabe, S., Kato, S., Ueda, M., Endo, I., Inayama, Y., Maeda, S., Nakajima, A., Kubota, K., Endoscopic ultrasonographic findings predict the risk of carcinoma in branch duct intraductal papillary mucinous neoplasms of the pancreas, Pancreatology, 12, 141-5, 2012	No sample size: < 50 patients (36 patients)
Konda VJ, Meining A, Jamil LH, Giovannini M, Hwang JH, et al. A pilot study of in vivo identification of pancreatic cystic neoplasms with needle-based confocal laser endomicroscopy under endosonographic guidance. Endoscopy. 2013 Dec;45(12):1006-13.	No sample size: < 50 patients (n=31)
Kowalski, T., Siddiqui, A., Loren, D., Mertz, H. R., Mallat, D., Haddad, N., Malhotra, N., Sadowski, B., Lybik, M. J., Patel, S. N., Okoh, E., Rosenkranz, L., Karasik, M., Golioto, M., Linder, J., Catalano, M. F., Al-Haddad, M. A., Management of Patients With Pancreatic Cysts: Analysis of Possible False-Negative Cases of Malignancy, Journal of Clinical Gastroenterology, 50, 649-57, 2016	No index test (integrated molecular pathology)
Krishna SG, Brugge WR, Dewitt JM, Kongkam P, Napoleon B, et al. Needle-based confocal laser endomicroscopy for the diagnosis of pancreatic cystic lesions: an international external interobserver and intraobserver study (with videos). Gastrointest Endosc. 2017.	No sample size: < 50 patients (n=29)
Kucera, S., Centeno, B. A., Springett, G., Malafa, M. P.,	No sample size: < 50 patients

Study	Reason for exclusion
Chen, Y. A., Weber, J., Klapman, J., Cyst fluid carcinoembryonic antigen level is not predictive of invasive cancer in patients with intraductal papillary mucinous neoplasm of the pancreas, Jop: Journal of the Pancreas [Electronic Resource]Jop, 13, 409-13, 2012	(n=47)
Le Baleur Y, Couvelard A, Vullierme MP, Sauvanet A, Hammel P, et al. Mucinous cystic neoplasms of the pancreas: definition of preoperative imaging criteria for high-risk lesions. Pancreatology. 2011;11(5):495-9.	No index test (this study determines if CT scan data might be useful to predict the grade of dysplasia in a series of 60 histologically proven mcn, by means of morphological features of cysts)
Le Baleur, Y., Couvelard, A., Vullierme, M. P., Sauvanet, A., Rebours, V., Hentic, O., Maire, F., Hammel, P., Ruszniewski, P., Levy, P., Hegyi, P., Rakonczay, Z., Venglovecz, V., Takacs, T., CT scan allows accurate preoperative diagnosis of malignancy in patients with pancreatic mucinous cystadenomas, Pancreatology, 9, 522, 2009	No sufficient data are reported to populate 2 x 2 contingency tables
Leeds JS, Nayar MN, Dawwas M, Scott J, Anderson K, Haugk B, Oppong KW. Comparison of endoscopic ultrasound and computed tomography in the assessment of pancreatic cyst size using pathology as the gold standard. Pancreatology. 2013 May-Jun;13(3):263-6.	No relevant to PICO (assessment of pancreatic cyst size)
Leeds, J. S., Nayar, M. N., Dawwas, M., Scott, J., Anderson, K., Haugk, B., Oppong, K. W., Comparison of endoscopic ultrasound and computed tomography in the assessment of pancreatic cyst size using pathology as the gold standard, Pancreatology, 13, 263-6, 2013	This study aimed to compare the accuracy of endoscopic ultrasound with CT scanning in assessing pancreatic cyst size compared to histology - n malignancy
Levy A, Popovici T, Bories PN. Tumor markers in pancreatic cystic fluids for diagnosis of malignant cysts. Int J Biol Markers. 2017 ;:0	no full text article
Lim SJ, Alasadi R, Wayne JD, Rao S, Rademaker A, et al. Preoperative evaluation of pancreatic cystic lesions: cost-benefit analysis and proposed management algorithm. Surgery. 2005 Oct;138(4):672-9; discussion 679-80.	Insufficient data about the diagnostic outcome are performed
Lim, L. G., Lakhtakia, S., Ang, T. L., Vu, C. K., Dy, F., Chong, V. H., Khor, C. J., Lim, W. C., Doshi, B. K., Varadarajulu, S., Yasuda, K., Wong, J. Y., Chan, Y. H., Nga, M. E., Ho, K. Y., Asian, E. U. S. Consortium, Factors determining diagnostic yield of endoscopic ultrasound guided fine-needle aspiration for pancreatic cystic lesions: a multicentre Asian study, Digestive Diseases & SciencesDig Dis Sci, 58, 1751-7, 2013	No sample size: < 50 patients (only 37 patients had a histopathological confirmed diagnosis)
Lv, P., Mahyoub, R., Lin, X., Chen, K., Chai, W., Xie, J., Differentiating pancreatic ductal adenocarcinoma from pancreatic serous cystadenoma, mucinous cystadenoma, and a pseudocyst with detailed analysis of cystic features on CT scans: a preliminary study, Korean Journal of RadiologyKorean J Radiol, 12, 187-95, 2011	No index test (analysis of cystic features on CT scans: the aim of this study was to determine whether or not detailed cystic feature analysis on CT scans can assist in the differential diagnosis of pancreatic ductal adenocarcinoma (pdac) from serous cystadenoma (scn), mucinous cystadenoma (mcn), and a pseudocyst)"
Macari, M., Finn, M. E., Bennett, G. L., Cho, K. C., Newman, E., Hajdu, C. H., Babb, J. S., Differentiating pancreatic cystic neoplasms from pancreatic pseudocysts at MR imaging: value of perceived internal debris, Radiology, 251, 77-84, 2009	No sample size: < 50 patients (only 22 patients had a histopathological confirmed diagnosis)

Study	Reason for exclusion
Maire, F., Voitot, H., Aubert, A., Palazzo, L., O'Toole, D., Couvelard, A., Levy, P., Vidaud, M., Sauvanet, A., Ruszniewski, P., Hammel, P., Intraductal papillary mucinous neoplasms of the pancreas: performance of pancreatic fluid analysis for positive diagnosis and the prediction of malignancy, <i>American Journal of Gastroenterology</i> , 103, 2871-7, 2008	No sample size: < 50 patients (n=41)
Matthaei, H., Schulick, R. D., Hruban, R. H., Maitra, A., Cystic precursors to invasive pancreatic cancer, <i>Nature Reviews Gastroenterology & Hepatology</i> Nat Rev Gastroenterol Hepatol, 8, 141-50, 2011	Narrative review
Michaels, P. J., Brachtel, E. F., Bounds, B. C., Brugge, W. R., Pitman, M. B., Intraductal papillary mucinous neoplasm of the pancreas: cytologic features predict histologic grade, <i>Cancer</i> , 108, 163-73, 2006	No sample size: < 50 patients (34 patients)
Moparty, B., Logrono, R., Nealon, W. H., Waxman, I., Raju, G. S., Pasricha, P. J., Bhutani, M. S., The role of endoscopic ultrasound and endoscopic ultrasound-guided fine-needle aspiration in distinguishing pancreatic cystic lesions, <i>Diagnostic cytopathology</i> , 35, 18-25, 2007	No sample size: < 50 patients (n=11)
Morris-Stiff, G., Lentz, G., Chalikonda, S., Johnson, M., Biscotti, C., Stevens, T., Matthew Walsh, R., Pancreatic cyst aspiration analysis for cystic neoplasms: mucin or carcinoembryonic antigen--which is better?, <i>Surgery</i> , 148, 638-44; discussion 644-5, 2010	No sample size: < 50 patients (n=47)
Nakai, Y., Iwashita, T., Park do, H., Samarasena, J. B., Lee, J. G., Chang, K. J., Diagnosis of pancreatic cysts: EUS-guided, through-the-needle confocal laser-induced endomicroscopy and cystoscopy trial: DETECT study, <i>Gastrointestinal Endoscopy</i> , 81, 1204-14, 2015	No sample size: < 50 patients (18 patients)
Ngamruengphong S, Bartel MJ, Raimondo M. Cyst carcinoembryonic antigen in differentiating pancreatic cysts: a meta-analysis. <i>Dig Liver Dis</i> . 2013 Nov;45(11):920-6.	This MA has been excluded from the analysis, but it has been checked for relevant studies
Oguz, D., Oztas, E., Kalkan, I. H., Tayfur, O., Cicek, B., Aydog, G., Kurt, M., Beyazit, Y., Etik, D., Nadir, I., Sahin, B., Accuracy of endoscopic ultrasound-guided fine needle aspiration cytology on the differentiation of malignant and benign pancreatic cystic lesions: a single-center experience, <i>Journal of Digestive Diseases</i> J Dig Dis, 14, 132-9, 2013	No sample size: < 50 patients (n=34)
O'Toole, D., Palazzo, L., Hammel, P., Ben Yaghlene, L., Couvelard, A., Felce-Dachez, M., Fabre, M., Dancour, A., Aubert, A., Sauvanet, A., Maire, F., Levy, P., Ruszniewski, P., Macrocytic pancreatic cystadenoma: The role of EUS and cyst fluid analysis in distinguishing mucinous and serous lesions, <i>Gastrointestinal Endoscopy</i> , 59, 823-9, 2004	No sample size: < 50 patients (n=41)
Pang, J. C., Minter, R. M., Kwon, R. S., Simeone, D. M., Roh, M. H., The role of cytology in the preoperative assessment and management of patients with pancreaticobiliary tract neoplasms, <i>Journal of Gastrointestinal Surgery</i> J Gastrointest Surg, 17, 501-10, 2013	No patients type (no patients with pc: patients with pancreaticobiliary tract neoplasms)
Pezzilli R, Calculli L, Melzi d'Eril G, Barassi A. Serum tumor markers not useful in screening patients with pancreatic mucinous cystic lesions associated with malignant changes. <i>Hepatobiliary Pancreat Dis Int</i> . 2016;15(5):553-557	No sample size: < 50 patients (n=35)
Pongpornsup, S., Piyapittayanan, S., Charoensak, A., MDCT imaging findings for characterization pancreatic cystic lesion:	No sample size: < 50 patients (n=33)

Study	Reason for exclusion
differentiation between benign and malignant pattern, Journal of the Medical Association of Thailand, 94, 369-78, 2011	
Raval, J. S., Zeh, H. J., Moser, A. J., Lee, K. K., Sanders, M. K., Navina, S., Kuan, S. F., Krasinskas, A. M., Pancreatic lymphoepithelial cysts express CEA and can contain mucous cells: potential pitfalls in the preoperative diagnosis, Modern Pathology, 23, 1467-76, 2010	No sample size: < 50 patients (n=9)
Sahani DV, Sainani NI, Blake MA, Crippa S, Mino-Kenudson M, del-Castillo CF. Prospective evaluation of reader performance on MDCT in characterization of cystic pancreatic lesions and prediction of cyst biologic aggressiveness. AJR Am J Roentgenol. 2011 Jul;197(1):W53-61.	No sufficient data are reported to populate 2 x 2 contingency tables
Sahani, D. V., Kadavigere, R., Blake, M., Fernandez-Del Castillo, C., Lauwers, G. Y., Hahn, P. F., Intraductal papillary mucinous neoplasm of pancreas: multi-detector row CT with 2D curved reformations--correlation with MRCP, Radiology, 238, 560-9, 2006	No sample size: < 50 patients (this study includes only 25 patients)
Sainani NI, Saokar A, Deshpande V, Fernandez-del Castillo C, Hahn P, Sahani DV. Comparative performance of MDCT and MR with MR cholangiopancreatography in characterizing small pancreatic cysts. AJR Am J Roentgenol 2009;193:722e31.	No sample size: < 50 patients (n=38)
Sawhney, M. S., Devarajan, S., O'Farrel, P., Cury, M. S., Kundu, R., Vollmer, C. M., Brown, A., Chuttani, R., Pleskow, D. K., Comparison of carcinoembryonic antigen and molecular analysis in pancreatic cyst fluid, Gastrointestinal Endoscopy, 69, 1106-10, 2009	No sample size: < 50 patients (n=19)
Schachter, P. P., Avni, Y., Gvirz, G., Rosen, A., Czerniak, A., The impact of laparoscopy and laparoscopic ultrasound on the management of pancreatic cystic lesions, Archives of SurgeryArch Surg, 135, 260-4; discussion 264, 2000	No sample size: < 50 patients (n=15)
Sedlack, R., Affi, A., Vazquez-Sequeiros, E., Norton, I. D., Clain, J. E., Wiersema, M. J., Utility of EUS in the evaluation of cystic pancreatic lesions, Gastrointestinal Endoscopy, 56, 543-7, 2002	No sample size: < 50 patients (n=7)
Shami, V. M., Sundaram, V., Stelow, E. B., Conaway, M., Moskaluk, C. A., White, G. E., Adams, R. B., Yeaton, P., Kahaleh, M., The level of carcinoembryonic antigen and the presence of mucin as predictors of cystic pancreatic mucinous neoplasia, Pancreas, 34, 466-9, 2007	No sample size: < 50 patients (n=43)
Soyer OM, Baran B, Ormeci AC, Sahin D, Gokturk S, et al. Role of biochemistry and cytological analysis of cyst fluid for the differential diagnosis of pancreatic cysts: A retrospective cohort study. Medicine (Baltimore). 2017;96(1):e5513	no reference standard: The final diagnosis was established according to patient history, physical examination, EUS appearance, and cystic fluid assessment
Sugimoto M, Elliott IA, Nguyen AH, Kim S, Muthusamy VR, et al. Assessment of a Revised Management Strategy for Patients With Intraductal Papillary Mucinous Neoplasms Involving the Main Pancreatic Duct. JAMA Surg. 2017;152(1):e163349	no index test of interest
Suzuki, R., Thosani, N., Annangi, S., Guha, S., Bhutani, M. S., Diagnostic yield of EUS-FNA-based cytology distinguishing malignant and benign IPMNs: a systematic review and meta-analysis, Pancreatolgy, 14, 380-4, 2014	This MA has been updated by wang 2015 - "star id 454477"
Takeshita, K., Kutomi, K., Takada, K., Haruyama, T.,	No outcome data (no sensitivity)

Study	Reason for exclusion
Fukushima, J., Aida, R., Takada, T., Furui, S., Differential diagnosis of benign or malignant intraductal papillary mucinous neoplasm of the pancreas by multidetector row helical computed tomography: evaluation of predictive factors by logistic regression analysis, <i>Journal of computer assisted tomography</i> , 32, 191-7, 2008	and specificity data reported)
Tan, L., Zhao, Y. E., Wang, D. B., Wang, Q. B., Hu, J., Chen, K. M., Deng, X. X., Imaging features of intraductal papillary mucinous neoplasms of the pancreas in multi-detector row computed tomography, <i>World Journal of Gastroenterology</i> , 15, 4037-43, 2009	No sample size: < 50 patients (20 patients)
Tann, M., Sandrasegaran, K., Jennings, S. G., Skandarajah, A., McHenry, L., Schmidt, C. M., Positron-emission tomography and computed tomography of cystic pancreatic masses, <i>Clinical Radiology</i> , 62, 745-51, 2007	No sample size: < 50 patients (n=30)
Thomas, T., Bebb, J., Mannath, J., Ragunath, K., Kaye, P. V., Aithal, G. P., EUS-guided pancreatic cyst brushing: A comparative study in a tertiary referral centre, <i>Journal of the Pancreas</i> , 11, 163-169, 2010	No sample size: < 50 patients (only 27 patients received EUS-fna)
Thornton GD, McPhail MJ, Nayagam S, Hewitt MJ, Vlavianos P, et al. Endoscopic ultrasound guided fine needle aspiration for the diagnosis of pancreatic cystic neoplasms: a meta-analysis. <i>Pancreatology</i> . 2013 Jan-Feb;13(1):48-57.	This MA has been excluded from the analysis, but it has been checked for relevant studies
Thosani, N., Thosani, S., Qiao, W., Fleming, J. B., Bhutani, M. S., Guha, S., Role of EUS-FNA-based cytology in the diagnosis of mucinous pancreatic cystic lesions: a systematic review and meta-analysis, <i>Digestive Diseases & Sciences Dig Dis Sci</i> , 55, 2756-66, 2010	This MA has been updated by wang 2015 - "star id 454477"
van der Waaij LA, van Dullemen HM, Porte RJ. Cyst fluid analysis in the differential diagnosis of pancreatic cystic lesions: a pooled analysis. <i>Gastrointest Endosc</i> . 2005 Sep;62(3):383-9.	This MA has been excluded from the analysis, but it has been checked for relevant studies
Vasile, T. A., Socaciu, M., Stan Iuga, R., Seicean, A., Iancu, C., al Hajjar, N., Zaharie, T., Badea, R., Added value of intravenous contrast-enhanced ultrasound for characterization of cystic pancreatic masses: a prospective study on 37 patients, <i>Medical UltrasonographyMed</i> , 14, 108-14, 2012	No sample size: < 50 patients (n=37)
Visser BC, Muthusamy VR, Yeh BM, Coakley FV, Way LW. Diagnostic evaluation of cystic pancreatic lesions. <i>HPB (Oxford)</i> 2008;10:63e9.	No relevant to the PICO (this study was focused more on the specific diagnosis of the different types of pancreatic cysts than on cysts at high-risk of malignancy.
Volmar KE, Creager AJ. Fine needle aspiration of pancreatic cysts: Use of ancillary studies and difficulty in identifying surgical candidates. <i>Acta Cytol</i> . 2006 Nov-Dec;50(6):647-55.	No clear definition of the disease status (this study evaluates the ancillary biochemical testing after pancreatic cyst EUS-FNA for identifying patients [cysts] requiring surgery), no fopr differentiating cysts accordfin g the risk
Walsh, R. M., Henderson, J. M., Vogt, D. P., Baker, M. E., O'Malley C, M., Jr., Herts, B., Zuccaro, G., Jr., Vargo, J. J., Dumot, J. A., Conwell, D. L., Biscotti, C. V., Brown, N., Prospective preoperative determination of mucinous pancreatic cystic neoplasms, <i>Surgery</i> , 132, 628-33; discussion 633-4, 2002	No sample size: < 50 patients (n=26)
Wang QX, Xiao J, Orange M, Zhang H, Zhu YQ. EUS-Guided FNA for Diagnosis of Pancreatic Cystic Lesions: a Meta-	This MA has been excluded from the analysis, but it has been

Study	Reason for exclusion
Analysis. Cell Physiol Biochem. 2015;36(3):1197-209.	checked for relevant studies
Wiesenauer, C. A., Schmidt, C. M., Cummings, O. W., Yiannoutsos, C. T., Howard, T. J., Wiebke, E. A., Goulet, R. J., Jr., McHenry, L., Sherman, S., Lehman, G. A., Cramer, H., Madura, J. A., Preoperative predictors of malignancy in pancreatic intraductal papillary mucinous neoplasms, Archives of Surgery Arch Surg, 138, 610-7; discussion 617-8, 2003	No sample size: < 50 patients (n=39)
Will, U., Mueller, A., Topalidis, T., Meyer, F., Value of endoscopic ultrasonography-guided fine needle aspiration (FNA) in the diagnosis of neoplastic tumor(-like) pancreatic lesions in daily clinical practice, Ultraschall in der Medizin, 31, 169-74, 2010	No English
Woolf, K. M., Liang, H., Sletten, Z. J., Russell, D. K., Bonfiglio, T. A., Zhou, Z., False-negative rate of endoscopic ultrasound-guided fine-needle aspiration for pancreatic solid and cystic lesions with matched surgical resections as the gold standard: one institution's experience, Cancer Cytopathology, 121, 449-58, 2013	No sample size: < 50 patients (n=24)
Wright, G. P., Morrow, J. B., Shaheen, M., Goslin, B. J., Baatenburg, L., Chung, M. H., Accuracy of endoscopic ultrasound in the evaluation of cystic pancreatic neoplasms: a community hospital experience, Pancreas, 43, 465-9, 2014	Unclear comparison ("a final EUS diagnosis was made based on the examiner's impression and results of fna if performed)
Yamamoto N, Kato H, Tomoda T, Matsumoto K, Sakakihara I, et al. Contrast-enhanced harmonic endoscopic ultrasonography with time-intensity curve analysis for intraductal papillary mucinous neoplasms of the pancreas. Endoscopy. 2016;48(1):26-34	No sample size: < 50 patients (n=30)
Zhan, X. B., Wang, B., Liu, F., Ye, X. F., Jin, Z. D., Li, Z. S., Cyst fluid carcinoembryonic antigen concentration and cytology by endosonography-guided fine needle aspiration in predicting malignant pancreatic mucinous cystic neoplasms, Journal of Digestive Diseases J Dig Dis, 14, 191-5, 2013	No sample size: < 50 patients (20 patients)
Zhang, H. M., Yao, F., Liu, G. F., Wang, X. B., Xiu, D. H., Gen, I., The differences in imaging features of malignant and benign branch duct type of Intraductal Papillary Mucinous Tumor, European Journal of Radiology Eur J Radiol, 80, 744-8, 2011	No sample size: < 50 patients (this study includes 36 patients)
Zhang, S., Defrias, D. V., Alasadi, R., Nayar, R., Endoscopic ultrasound-guided fine needle aspiration (EUS-FNA): experience of an academic centre in the USA, Cytopathology, 21, 35-43, 2010	No sample size: < 50 patients (n=49)
Zhang, Y., Frampton, A. E., Martin, J. L., Kyriakides, C., Bong, J. J., Habib, N. A., Vlavianos, P., Jiao, L. R., 18F-fluorodeoxyglucose positron emission tomography in management of pancreatic cystic tumors, Nuclear Medicine & Biology Nucl Med Biol, 39, 982-5, 2012	No sample size: < 50 patients (n=20)
Zhong N, Zhang L, Takahashi N, Shalmiyev V, Canto MI, et al. Histologic and imaging features of mural nodules in mucinous pancreatic cysts. Clin Gastroenterol Hepatol. 2012 Feb;10(2):192-8, 198.e1-2.	No relevant to PICO (assessment of mural nodules in branch duct IPMNS and mcns and criteria to distinguish mural nodules from mucus.)
Study	Reason for exclusion
Aithal, G. P., Chen, R. Y., Cunningham, J. T., Durkalski, V., Kim, E. Y., Patel, R. S., Wallace, M. B., Hawes, R. H., Hoffman, B. J., Accuracy of EUS for detection of intraductal	No sample size: < 50 patients (n=34)

Study	Reason for exclusion
papillary mucinous tumor of the pancreas, Gastrointestinal Endoscopy, 56, 701-7, 2002	
Aljebreen, A. M., Romagnuolo, J., Perini, R., Sutherland, F., Utility of endoscopic ultrasound, cytology and fluid carcinoembryonic antigen and CA 19-9 levels in pancreatic cystic lesions, World Journal of Gastroenterology, 13, 3962-6, 2007	No sample size: < 50 patients (n=46)
Anand, N., Sampath, K., Wu, B. U., Cyst features and risk of malignancy in intraductal papillary mucinous neoplasms of the pancreas: a meta-analysis, Clinical Gastroenterology & HepatologyClin Gastroenterol Hepatol, 11, 913-21; quiz e59-60, 2013	No index test: was about the risk of malignancy having IPMNS more than a diagnostic review
Atef, E., El Nakeeb, A., El Hanafy, E., El Hemaly, M., Hamdy, E., El-Geidie, A., Pancreatic cystic neoplasms: predictors of malignant behavior and management, Saudi Journal of GastroenterologySaudi j, 19, 45-53, 2013	No diagnostic study
Attasaranya, S., Pais, S., LeBlanc, J., McHenry, L., Sherman, S., DeWitt, J. M., Endoscopic ultrasound-guided fine needle aspiration and cyst fluid analysis for pancreatic cysts, Jop: Journal of the Pancreas [Electronic Resource]Jop, 8, 553-63, 2007	No sample size: < 50 patients (n=48)
Baba T, Yamaguchi T, Ishihara T, Kobayashi A, Oshima T, et al. Distinguishing benign from malignant intraductal papillary mucinous tumours of the pancreas by imaging techniques. Pancreas. 2004 Oct;29(3):212-7.	This study was fitting the search question for this review (distinguishing benign from malignant intraductal papillary mucinous tumours of the pancreas by imaging techniques), but did not report sufficient data
Barresi, L., Tarantino, I., Traina, M., Granata, A., Curcio, G., Azzopardi, N., Baccarini, P., Liotta, R., Fornelli, A., Maimone, A., Jovine, E., Cennamo, V., Fabbri, C., Endoscopic ultrasound-guided fine needle aspiration and biopsy using a 22-gauge needle with side fenestration in pancreatic cystic lesions, Digestive & Liver DiseaseDig Liver Dis, 46, 45-50, 2014	No index test (EUS-FNA using a 22-gauge needle with side fenestration)
Belsley, N. A., Pitman, M. B., Lauwers, G. Y., Brugge, W. R., Deshpande, V., Serous cystadenoma of the pancreas: limitations and pitfalls of endoscopic ultrasound-guided fine-needle aspiration biopsy, Cancer, 114, 102-10, 2008	No sample size: < 50 patients (n=9)
Best LM, Rawji V, Pereira SP, Davidson BR, Gurusamy KS. Imaging modalities for characterising focal pancreatic lesions. Cochrane Database Syst Rev. 2017 17;4:CD010213	All evidence has been already included. References have been checked for relevancy, and 5 additional studies have been identified from this COCHRANE REVIEW
Beyer-Enke SA, Hocke M, Ignee A, Braden B, Dietrich CF. Contrast enhanced transabdominal ultrasound in the characterisation of pancreatic lesions with cystic appearance. JOP. 2010 Sep 6;11(5):427-33.	No relevant to the PICO (this study evaluates the differentiation between pseudocysts and pancreatic neoplasia (including both Benign and malignant lesions) in comparison to the conventional EUS
Bick, B. L., Enders, F. T., Levy, M. J., Zhang, L., Henry, M. R., Abu Dayyeh, B. K., Chari, S. T., Clain, J. E., Farnell, M. B., Gleeson, F. C., Kendrick, M. L., Pearson, R. K., Petersen, B. T., Rajan, E., Vege, S. S., Topazian, M., The string sign for diagnosis of mucinous pancreatic cysts, Endoscopy, 47, 626-	No index test (string sign test)

Study	Reason for exclusion
31, 2015	
Brandwein, S. L., Farrell, J. J., Centeno, B. A., Brugge, W. R., Detection and tumor staging of malignancy in cystic, intraductal, and solid tumours of the pancreas by EUS, <i>Gastrointestinal Endoscopy</i> , 53, 722-7, 2001	No patients type (no patients with pc: patients with pancreaticobiliary tract neoplasms)
Brugge, W. R., Role of endoscopic ultrasound in the diagnosis of cystic lesions of the pancreas, <i>Pancreatology</i> , 1, 637-40, 2001	No diagnostic study
Campbell, N. M., Katz, S. S., Escalon, J. G., Do, R. K., Imaging patterns of intraductal papillary mucinous neoplasms of the pancreas: An illustrated discussion of the International Consensus Guidelines for the Management of IPMN, <i>Abdominal Imaging</i> , 40, 663-677, 2014	No diagnostic study
Choi, B. S., Kim, T. K., Kim, A. Y., Kim, K. W., Park, S. W., Kim, P. N., Ha, H. K., Lee, M. G., Kim, S. C., Differential diagnosis of benign and malignant intraductal papillary mucinous tumours of the pancreas: MR cholangiopancreatography and MR angiography, <i>Korean journal of radiology : official journal of the Korean Radiological Society</i> , 4, 157-162, 2003	No sample size: < 50 patients (this study includes 46 patients with IPMT)
Chvatalova, T., Martinek, J., Zavada, F., Zavoral, M., Pancreatic cystic tumours: A single centre retrospective study, <i>Pancreatology</i> , 12, 554-555, 2012	Conference abstract: insufficient information
Cone MM, Rea JD, Diggs BS et al. Endoscopic ultrasound may be unnecessary in the preoperative evaluation of intraductal papillary mucinous neoplasm. <i>HPB (Oxford)</i> 2011; 13: 112–116.	No relevant to the PICO (this study included patients with high-grade dysplasia (HGD) and cancer within pancreatic IPMN (mixed population))
de Jong, K., van Hooft, J. E., Nio, C. Y., Gouma, D. J., Dijkgraaf, M. G., Bruno, M. J., Fockens, P., Accuracy of preoperative workup in a prospective series of surgically resected cystic pancreatic lesions, <i>Scandinavian journal of gastroenterology</i> , 47, 1056-63, 2012	No sample size: < 50 patients (n=32)
Delavaud, C., d'Assignies, G., Cros, J., Ruzsiewicz, P., Hammel, P., Levy, P., Couvelard, A., Sauvanet, A., Dokmak, S., Vilgrain, V., Vullierme, M. P., CT and MR imaging of multilocular acinar cell cystadenoma: comparison with branch duct intraductal papillary mucinous neoplasia (IPMNs), <i>European radiology</i> , 24, 2128-36, 2014	No sample size: < 50 patients (n=24)
D'Onofrio, M., Biagioli, E., Gerardi, C., Canestrini, S., Rulli, E., Crosara, S., De Robertis, R., Floriani, I., Diagnostic performance of contrast-enhanced ultrasound (CEUS) and contrast-enhanced endoscopic ultrasound (ECEUS) for the differentiation of pancreatic lesions: a systematic review and meta-analysis, <i>Ultraschall in der Medizin</i> , 35, 515-21, 2014	No English
Emerson, R. E., Randolph, M. L., Cramer, H. M., Endoscopic ultrasound-guided fine-needle aspiration cytology diagnosis of intraductal papillary mucinous neoplasm of the pancreas is highly predictive of pancreatic neoplasia, <i>Diagnostic cytopathology</i> , 34, 457-62, 2006	No sample size: < 50 patients (20 patients)
Fatima, Z., Ichikawa, T., Motosugi, U., Muhi, A., Sano, K., Sou, H., Haradome, H., Kiryu, S., Araki, T., Magnetic resonance diffusion-weighted imaging in the characterization of pancreatic mucinous cystic lesions, <i>Clinical Radiology</i> , 66, 108-11, 2011	No index test (magnetic resonance diffusion-weighted imaging)
Fusaroli P, Serrani M, De Giorgio R, D'Ercole MC, Ceroni L,	no reference standard: The final

Study	Reason for exclusion
et al. Contrast Harmonic-Endoscopic Ultrasound Is Useful to Identify Neoplastic Features of Pancreatic Cysts (With Videos). <i>Pancreas</i> . 2016 ;45(2):265-8.	diagnosis was established by surgical pathology (gold standard) or by a combination of clinical history, EUS morphology, cytology, and biochemical markers (including CEA and amylase assay) on EUS-FNA specimen, along with a monthly follow-up (surrogate gold standard).
Genevay, M., Mino-Kenudson, M., Yaeger, K., Konstantinidis, I. T., Ferrone, C. R., Thayer, S., Castillo, C. F., Sahani, D., Bounds, B., Forcione, D., Brugge, W. R., Pitman, M. B., Cytology adds value to imaging studies for risk assessment of malignancy in pancreatic mucinous cysts, <i>Annals of Surgery</i> Ann Surg, 254, 977-83, 2011	Morphological features of the cysts as predictors of malignancy
Gillis, A., Cipollone, I., Cousins, G., Conlon, K., Does EUS-FNA molecular analysis carry additional value when compared to cytology in the diagnosis of pancreatic cystic neoplasm? A systematic review, <i>HPB</i> , 17, 377-86, 2015	No index test: molecular analysis of cystic fluid obtained through EUS-FNA of pancreatic cystic lesions
Grobmyer, S. R., Cance, W. G., Copeland, E. M., Vogel, S. B., Hochwald, S. N., Is there an indication for initial conservative management of pancreatic cystic lesions?, <i>Journal of Surgical Oncology</i> , 100, 372-4, 2009	No sample size: < 50 patients (cyst fluid cytology was performed in 41 patients)
Haab, B. B., Porter, A., Schmidt, M., Lee, C. J., Barnes, D., Simeone, D., Glycosylation variants on mucins as candidate markers for the diagnosis of pancreatic cystic neoplasms, <i>Pancreas</i> , 37, 472-473, 2008	No index test (novel test: antibody-lectin sandwich microarray)
Hutchins, G. F., Draganov, P. V., Cystic neoplasms of the pancreas: a diagnostic challenge, <i>World Journal of Gastroenterology</i> , 15, 48-54, 2009	No outcome data (no sensitivity and specificity data reported)
Inan, N., Arslan, A., Akansel, G., Anik, Y., Demirci, A., Diffusion-weighted imaging in the differential diagnosis of cystic lesions of the pancreas, <i>AJR. American Journal of Roentgenology</i> AJR Am J Roentgenol, 191, 1115-21, 2008	No sample size: < 50 patients (n=42)
Jones MJ, Buchanan AS, Neal CP, Dennison AR, Metcalfe MS, et al. Imaging of indeterminate pancreatic cystic lesions: a systematic review. <i>Pancreatol</i> . 2013 Jul-Aug;13(4):436-42.	This MA has been excluded from the analysis, but it has been checked for relevant studies
Kadayifci A, Atar M, Basar O, Forcione DG, Brugge WR. Needle-Based Confocal Laser Endomicroscopy for Evaluation of Cystic Neoplasms of the Pancreas. <i>Dig Dis Sci</i> . 2017 ;62(5):1346-1353	No sample size: < 50 patients (n=20)
Kawaguchi, Y., Mine, T., Endoscopic approach to the diagnosis of pancreatic cystic tumor, <i>World Journal of Gastrointestinal Oncology</i> World J Gastrointest Oncol, 8, 159-64, 2016	No outcome data (no sensitivity and specificity data reported)
Khalid, A., McGrath, K. M., Zahid, M., Wilson, M., Brody, D., Swalsky, P., Moser, A. J., Lee, K. K., Slivka, A., Whitcomb, D. C., Finkelstein, S., The role of pancreatic cyst fluid molecular analysis in predicting cyst pathology, <i>Clinical Gastroenterology & Hepatology</i> Clin Gastroenterol Hepatol, 3, 967-73, 2005	No sample size: < 50 patients (27 patients)
Khalid, A., Zahid, M., Finkelstein, S. D., LeBlanc, J. K., Kaushik, N., Ahmad, N., Brugge, W. R., Edmundowicz, S. A., Hawes, R. H., McGrath, K. M., Pancreatic cyst fluid DNA analysis in evaluating pancreatic cysts: a report of the PANDA	No index test (this study evaluates the utility of a detailed DNA analysis of pancreatic cyst fluid to diagnose mucinous and malignant

Study	Reason for exclusion
study, <i>Gastrointestinal Endoscopy</i> , 69, 1095-102, 2009	cysts)
Kim M, Mi Jang K, Kim SH, Doo Song K, Jeong WK, et al. Diagnostic accuracy of diffusion restriction in intraductal papillary mucinous neoplasm of the pancreas in comparison with "high-risk stigmata" of the 2012 international consensus guidelines for prediction of the malignancy and invasiveness. <i>Acta Radiol.</i> 2017;:284185116685921	no index test of interest: diffusion-weighted imaging
Kim, J. H., Hong, S. S., Kim, Y. J., Kim, J. K., Eun, H. W., Intraductal papillary mucinous neoplasm of the pancreas: differentiate from chronic pancreatitis by MR imaging, <i>European Journal of Radiology</i> , 81, 671-6, 2012	No patients type (MR imaging was performed on 33, consecutive patients with IPMN and on 41 patients with chronic pancreatitis)
Kim, K. W., Park, S. H., Pyo, J., Yoon, S. H., Byun, J. H., Lee, M. G., Krajewski, K. M., Ramaiya, N. H., Imaging features to distinguish malignant and benign branch-duct type intraductal papillary mucinous neoplasms of the pancreas: a meta-analysis, <i>Annals of Surgery</i> , 259, 72-81, 2014	No outcome (this MA pooled together the finding of 19 studies to assess the morphological features of bd-IPMNS - references have been checked for relevant studies)
Kobayashi, N., Sugimori, K., Shimamura, T., Hosono, K., Watanabe, S., Kato, S., Ueda, M., Endo, I., Inayama, Y., Maeda, S., Nakajima, A., Kubota, K., Endoscopic ultrasonographic findings predict the risk of carcinoma in branch duct intraductal papillary mucinous neoplasms of the pancreas, <i>Pancreatology</i> , 12, 141-5, 2012	No sample size: < 50 patients (36 patients)
Konda VJ, Meining A, Jamil LH, Giovannini M, Hwang JH, et al. A pilot study of in vivo identification of pancreatic cystic neoplasms with needle-based confocal laser endomicroscopy under endosonographic guidance. <i>Endoscopy</i> . 2013 Dec;45(12):1006-13.	No sample size: < 50 patients (n=31)
Kowalski, T., Siddiqui, A., Loren, D., Mertz, H. R., Mallat, D., Haddad, N., Malhotra, N., Sadowski, B., Lybik, M. J., Patel, S. N., Okoh, E., Rosenkranz, L., Karasik, M., Golio, M., Linder, J., Catalano, M. F., Al-Haddad, M. A., Management of Patients With Pancreatic Cysts: Analysis of Possible False-Negative Cases of Malignancy, <i>Journal of Clinical Gastroenterology</i> , 50, 649-57, 2016	No index test (integrated molecular pathology)
Krishna SG, Brugge WR, Dewitt JM, Kongkam P, Napoleon B, et al. Needle-based confocal laser endomicroscopy for the diagnosis of pancreatic cystic lesions: an international external interobserver and intraobserver study (with videos). <i>Gastrointest Endosc.</i> 2017.	No sample size: < 50 patients (n=29)
Kucera, S., Centeno, B. A., Springett, G., Malafa, M. P., Chen, Y. A., Weber, J., Klapman, J., Cyst fluid carcinoembryonic antigen level is not predictive of invasive cancer in patients with intraductal papillary mucinous neoplasm of the pancreas, <i>Jop: Journal of the Pancreas [Electronic Resource]</i> Jop, 13, 409-13, 2012	No sample size: < 50 patients (n=47)
Le Baleur Y, Couvelard A, Vullierme MP, Sauvanet A, Hammel P, et al. Mucinous cystic neoplasms of the pancreas: definition of preoperative imaging criteria for high-risk lesions. <i>Pancreatology</i> . 2011;11(5):495-9.	No index test (this study determines if CT scan data might be useful to predict the grade of dysplasia in a series of 60 histologically proven mcn, by means of morphological features of cysts)
Le Baleur, Y., Couvelard, A., Vullierme, M. P., Sauvanet, A., Rebours, V., Hentic, O., Maire, F., Hammel, P., Ruszniewski, P., Levy, P., Hegyi, P., Rakonczay, Z., Venglovecz, V., Takacs, T., CT scan allows accurate preoperative diagnosis of malignancy in patients with pancreatic mucinous	No sufficient data are reported to populate 2 x 2 contingency tables

Study	Reason for exclusion
cystadenomas, <i>Pancreatology</i> , 9, 522, 2009	
Leeds JS, Nayar MN, Dawwas M, Scott J, Anderson K, Haugk B, Oppong KW. Comparison of endoscopic ultrasound and computed tomography in the assessment of pancreatic cyst size using pathology as the gold standard. <i>Pancreatology</i> . 2013 May-Jun;13(3):263-6.	No relevant to PICO (assessment of pancreatic cyst size)
Leeds, J. S., Nayar, M. N., Dawwas, M., Scott, J., Anderson, K., Haugk, B., Oppong, K. W., Comparison of endoscopic ultrasound and computed tomography in the assessment of pancreatic cyst size using pathology as the gold standard, <i>Pancreatology</i> , 13, 263-6, 2013	This study aimed to compare the accuracy of endoscopic ultrasound with CT scanning in assessing pancreatic cyst size compared to histology - n malignancy
Levy A, Popovici T, Bories PN. Tumor markers in pancreatic cystic fluids for diagnosis of malignant cysts. <i>Int J Biol Markers</i> . 2017 ;:0	no full text article
Lim SJ, Alasadi R, Wayne JD, Rao S, Rademaker A, et al. Preoperative evaluation of pancreatic cystic lesions: cost-benefit analysis and proposed management algorithm. <i>Surgery</i> . 2005 Oct;138(4):672-9; discussion 679-80.	Insufficient data about the diagnostic outcome are performed
Lim, L. G., Lakhtakia, S., Ang, T. L., Vu, C. K., Dy, F., Chong, V. H., Khor, C. J., Lim, W. C., Doshi, B. K., Varadarajulu, S., Yasuda, K., Wong, J. Y., Chan, Y. H., Nga, M. E., Ho, K. Y., Asian, E. U. S. Consortium, Factors determining diagnostic yield of endoscopic ultrasound guided fine-needle aspiration for pancreatic cystic lesions: a multicentre Asian study, <i>Digestive Diseases & Sciences/Dig Dis Sci</i> , 58, 1751-7, 2013	No sample size: < 50 patients (only 37 patients had a histopathological confirmed diagnosis)
Lv, P., Mahyoub, R., Lin, X., Chen, K., Chai, W., Xie, J., Differentiating pancreatic ductal adenocarcinoma from pancreatic serous cystadenoma, mucinous cystadenoma, and a pseudocyst with detailed analysis of cystic features on CT scans: a preliminary study, <i>Korean Journal of Radiology/Korean J Radiol</i> , 12, 187-95, 2011	No index test (analysis of cystic features on CT scans: the aim of this study was to determine whether or not detailed cystic feature analysis on CT scans can assist in the differential diagnosis of pancreatic ductal adenocarcinoma (pdac) from serous cystadenoma (scn), mucinous cystadenoma (mcn), and a pseudocyst)"
Macari, M., Finn, M. E., Bennett, G. L., Cho, K. C., Newman, E., Hajdu, C. H., Babb, J. S., Differentiating pancreatic cystic neoplasms from pancreatic pseudocysts at MR imaging: value of perceived internal debris, <i>Radiology</i> , 251, 77-84, 2009	No sample size: < 50 patients (only 22 patients had a histopathological confirmed diagnosis)
Maire, F., Voitot, H., Aubert, A., Palazzo, L., O'Toole, D., Couvelard, A., Levy, P., Vidaud, M., Sauvanet, A., Ruszniewski, P., Hammel, P., Intraductal papillary mucinous neoplasms of the pancreas: performance of pancreatic fluid analysis for positive diagnosis and the prediction of malignancy, <i>American Journal of Gastroenterology</i> , 103, 2871-7, 2008	No sample size: < 50 patients (n=41)
Matthaei, H., Schulick, R. D., Hruban, R. H., Maitra, A., Cystic precursors to invasive pancreatic cancer, <i>Nature Reviews Gastroenterology & Hepatology/Nat Rev Gastroenterol Hepatol</i> , 8, 141-50, 2011	Narrative review
Michaels, P. J., Brachtel, E. F., Bounds, B. C., Brugge, W. R., Pitman, M. B., Intraductal papillary mucinous neoplasm of the pancreas: cytologic features predict histologic grade, <i>Cancer</i> , 108, 163-73, 2006	No sample size: < 50 patients (34 patients)
Moparty, B., Logrono, R., Nealon, W. H., Waxman, I., Raju, G. S., Pasricha, P. J., Bhutani, M. S., The role of endoscopic	No sample size: < 50 patients

Study	Reason for exclusion
ultrasound and endoscopic ultrasound-guided fine-needle aspiration in distinguishing pancreatic cystic lesions, <i>Diagnostic cytopathology</i> , 35, 18-25, 2007	(n=11)
Morris-Stiff, G., Lentz, G., Chalikonda, S., Johnson, M., Biscotti, C., Stevens, T., Matthew Walsh, R., Pancreatic cyst aspiration analysis for cystic neoplasms: mucin or carcinoembryonic antigen--which is better?, <i>Surgery</i> , 148, 638-44; discussion 644-5, 2010	No sample size: < 50 patients (n=47)
Nakai, Y., Iwashita, T., Park do, H., Samarasena, J. B., Lee, J. G., Chang, K. J., Diagnosis of pancreatic cysts: EUS-guided, through-the-needle confocal laser-induced endomicroscopy and cystoscopy trial: DETECT study, <i>Gastrointestinal Endoscopy</i> , 81, 1204-14, 2015	No sample size: < 50 patients (18 patients)
Ngamruengphong S, Bartel MJ, Raimondo M. Cyst carcinoembryonic antigen in differentiating pancreatic cysts: a meta-analysis. <i>Dig Liver Dis</i> . 2013 Nov;45(11):920-6.	This MA has been excluded from the analysis, but it has been checked for relevant studies
Oguz, D., Oztas, E., Kalkan, I. H., Tayfur, O., Cicek, B., Aydog, G., Kurt, M., Beyazit, Y., Etik, D., Nadir, I., Sahin, B., Accuracy of endoscopic ultrasound-guided fine needle aspiration cytology on the differentiation of malignant and benign pancreatic cystic lesions: a single-center experience, <i>Journal of Digestive DiseasesJ Dig Dis</i> , 14, 132-9, 2013	No sample size: < 50 patients (n=34)
O'Toole, D., Palazzo, L., Hammel, P., Ben Yaghlene, L., Couvelard, A., Felce-Dachez, M., Fabre, M., Dancour, A., Aubert, A., Sauvanet, A., Maire, F., Levy, P., Ruszniewski, P., Macrocystic pancreatic cystadenoma: The role of EUS and cyst fluid analysis in distinguishing mucinous and serous lesions, <i>Gastrointestinal Endoscopy</i> , 59, 823-9, 2004	No sample size: < 50 patients (n=41)
Pang, J. C., Minter, R. M., Kwon, R. S., Simeone, D. M., Roh, M. H., The role of cytology in the preoperative assessment and management of patients with pancreaticobiliary tract neoplasms, <i>Journal of Gastrointestinal SurgeryJ Gastrointest Surg</i> , 17, 501-10, 2013	No patients type (no patients with pc: patients with pancreaticobiliary tract neoplasms)
Pezzilli R, Calculli L, Melzi d'Eril G, Barassi A. Serum tumor markers not useful in screening patients with pancreatic mucinous cystic lesions associated with malignant changes. <i>Hepatobiliary Pancreat Dis Int</i> . 2016;15(5):553-557	No sample size: < 50 patients (n=35)
Pongpornsup, S., Piyapittayanan, S., Charoensak, A., MDCT imaging findings for characterization pancreatic cystic lesion: differentiation between benign and malignant pattern, <i>Journal of the Medical Association of Thailand</i> , 94, 369-78, 2011	No sample size: < 50 patients (n=33)
Raval, J. S., Zeh, H. J., Moser, A. J., Lee, K. K., Sanders, M. K., Navina, S., Kuan, S. F., Krasinskas, A. M., Pancreatic lymphoepithelial cysts express CEA and can contain mucous cells: potential pitfalls in the preoperative diagnosis, <i>Modern Pathology</i> , 23, 1467-76, 2010	No sample size: < 50 patients (n=9)
Sahani DV, Sainani NI, Blake MA, Crippa S, Mino-Kenudson M, del-Castillo CF. Prospective evaluation of reader performance on MDCT in characterization of cystic pancreatic lesions and prediction of cyst biologic aggressiveness. <i>AJR Am J Roentgenol</i> . 2011 Jul;197(1):W53-61.	No sufficient data are reported to populate 2 x 2 contingency tables
Sahani, D. V., Kadavigere, R., Blake, M., Fernandez-Del Castillo, C., Lauwers, G. Y., Hahn, P. F., Intraductal papillary mucinous neoplasm of pancreas: multi-detector row CT with 2D curved reformations--correlation with MRCP, <i>Radiology</i> , 238, 560-9, 2006	No sample size: < 50 patients (this study includes only 25 patients)

Study	Reason for exclusion
Sainani NI, Saokar A, Deshpande V, Fernandez-del Castillo C, Hahn P, Sahani DV. Comparative performance of MDCT and MR with MR cholangiopancreatography in characterizing small pancreatic cysts. <i>AJR Am J Roentgenol</i> 2009;193:722e31.	No sample size: < 50 patients (n=38)
Sawhney, M. S., Devarajan, S., O'Farrel, P., Cury, M. S., Kundu, R., Vollmer, C. M., Brown, A., Chuttani, R., Pleskow, D. K., Comparison of carcinoembryonic antigen and molecular analysis in pancreatic cyst fluid, <i>Gastrointestinal Endoscopy</i> , 69, 1106-10, 2009	No sample size: < 50 patients (n=19)
Schachter, P. P., Avni, Y., Gvirz, G., Rosen, A., Czerniak, A., The impact of laparoscopy and laparoscopic ultrasound on the management of pancreatic cystic lesions, <i>Archives of SurgeryArch Surg</i> , 135, 260-4; discussion 264, 2000	No sample size: < 50 patients (n=15)
Sedlack, R., Affi, A., Vazquez-Sequeiros, E., Norton, I. D., Clain, J. E., Wiersema, M. J., Utility of EUS in the evaluation of cystic pancreatic lesions, <i>Gastrointestinal Endoscopy</i> , 56, 543-7, 2002	No sample size: < 50 patients (n=7)
Shami, V. M., Sundaram, V., Stelow, E. B., Conaway, M., Moskaluk, C. A., White, G. E., Adams, R. B., Yeaton, P., Kahaleh, M., The level of carcinoembryonic antigen and the presence of mucin as predictors of cystic pancreatic mucinous neoplasia, <i>Pancreas</i> , 34, 466-9, 2007	No sample size: < 50 patients (n=43)
Soyer OM, Baran B, Ormeci AC, Sahin D, Gokturk S, et al. Role of biochemistry and cytological analysis of cyst fluid for the differential diagnosis of pancreatic cysts: A retrospective cohort study. <i>Medicine (Baltimore)</i> . 2017;96(1):e5513	no reference standard: The final diagnosis was established according to patient history, physical examination, EUS appearance, and cystic fluid assessment
Sugimoto M, Elliott IA, Nguyen AH, Kim S, Muthusamy VR, et al. Assessment of a Revised Management Strategy for Patients With Intraductal Papillary Mucinous Neoplasms Involving the Main Pancreatic Duct. <i>JAMA Surg</i> . 2017;152(1):e163349	no index test of interest
Suzuki, R., Thosani, N., Annangi, S., Guha, S., Bhutani, M. S., Diagnostic yield of EUS-FNA-based cytology distinguishing malignant and benign IPMNs: a systematic review and meta-analysis, <i>Pancreatology</i> , 14, 380-4, 2014	This MA has been updated by wang 2015 - "star id 454477"
Takeshita, K., Kutomi, K., Takada, K., Haruyama, T., Fukushima, J., Aida, R., Takada, T., Furui, S., Differential diagnosis of benign or malignant intraductal papillary mucinous neoplasm of the pancreas by multidetector row helical computed tomography: evaluation of predictive factors by logistic regression analysis, <i>Journal of computer assisted tomography</i> , 32, 191-7, 2008	No outcome data (no sensitivity and specificity data reported)
Tan, L., Zhao, Y. E., Wang, D. B., Wang, Q. B., Hu, J., Chen, K. M., Deng, X. X., Imaging features of intraductal papillary mucinous neoplasms of the pancreas in multi-detector row computed tomography, <i>World Journal of Gastroenterology</i> , 15, 4037-43, 2009	No sample size: < 50 patients (20 patients)
Tann, M., Sandrasegaran, K., Jennings, S. G., Skandarajah, A., McHenry, L., Schmidt, C. M., Positron-emission tomography and computed tomography of cystic pancreatic masses, <i>Clinical Radiology</i> , 62, 745-51, 2007	No sample size: < 50 patients (n=30)
Thomas, T., Bebb, J., Mannath, J., Ragunath, K., Kaye, P. V., Aithal, G. P., EUS-guided pancreatic cyst brushing: A	No sample size: < 50 patients (only 27 patients received EUS-fna)

Study	Reason for exclusion
comparative study in a tertiary referral centre, <i>Journal of the Pancreas</i> , 11, 163-169, 2010	
Thornton GD, McPhail MJ, Nayagam S, Hewitt MJ, Vlavianos P, et al. Endoscopic ultrasound guided fine needle aspiration for the diagnosis of pancreatic cystic neoplasms: a meta-analysis. <i>Pancreatology</i> . 2013 Jan-Feb;13(1):48-57.	This MA has been excluded from the analysis, but it has been checked for relevant studies
Thosani, N., Thosani, S., Qiao, W., Fleming, J. B., Bhutani, M. S., Guha, S., Role of EUS-FNA-based cytology in the diagnosis of mucinous pancreatic cystic lesions: a systematic review and meta-analysis, <i>Digestive Diseases & Sciences/Dig Dis Sci</i> , 55, 2756-66, 2010	This MA has been updated by wang 2015 - "star id 454477"
van der Waaij LA, van Dullemen HM, Porte RJ. Cyst fluid analysis in the differential diagnosis of pancreatic cystic lesions: a pooled analysis. <i>Gastrointest Endosc</i> . 2005 Sep;62(3):383-9.	This MA has been excluded from the analysis, but it has been checked for relevant studies
Vasile, T. A., Socaciu, M., Stan Iuga, R., Seicean, A., Iancu, C., al Hajjar, N., Zaharie, T., Badea, R., Added value of intravenous contrast-enhanced ultrasound for characterization of cystic pancreatic masses: a prospective study on 37 patients, <i>Medical UltrasonographyMed</i> , 14, 108-14, 2012	No sample size: < 50 patients (n=37)
Visser BC, Muthusamy VR, Yeh BM, Coakley FV, Way LW. Diagnostic evaluation of cystic pancreatic lesions. <i>HPB (Oxford)</i> 2008;10:63e9.	No relevant to the PICO (this study was focused more on the specific diagnosis of the different types of pancreatic cysts than on cysts at high-risk of malignancy.
Volmar KE, Creager AJ. Fine needle aspiration of pancreatic cysts: Use of ancillary studies and difficulty in identifying surgical candidates. <i>Acta Cytol</i> . 2006 Nov-Dec;50(6):647-55.	No clear definition of the disease status (this study evaluates the ancillary biochemical testing after pancreatic cyst EUS-FNA for identifying patients [cysts] requiring surgery), no fopr differentiating cysts accordfin g the risk
Walsh, R. M., Henderson, J. M., Vogt, D. P., Baker, M. E., O'Malley C, M., Jr., Herts, B., Zuccaro, G., Jr., Vargo, J. J., Dumot, J. A., Conwell, D. L., Biscotti, C. V., Brown, N., Prospective preoperative determination of mucinous pancreatic cystic neoplasms, <i>Surgery</i> , 132, 628-33; discussion 633-4, 2002	No sample size: < 50 patients (n=26)
Wang QX, Xiao J, Orange M, Zhang H, Zhu YQ. EUS-Guided FNA for Diagnosis of Pancreatic Cystic Lesions: a Meta-Analysis. <i>Cell Physiol Biochem</i> . 2015;36(3):1197-209.	This MA has been excluded from the analysis, but it has been checked for relevant studies
Wiesenauer, C. A., Schmidt, C. M., Cummings, O. W., Yiannoutsos, C. T., Howard, T. J., Wiebke, E. A., Goulet, R. J., Jr., McHenry, L., Sherman, S., Lehman, G. A., Cramer, H., Madura, J. A., Preoperative predictors of malignancy in pancreatic intraductal papillary mucinous neoplasms, <i>Archives of SurgeryArch Surg</i> , 138, 610-7; discussion 617-8, 2003	No sample size: < 50 patients (n=39)
Will, U., Mueller, A., Topalidis, T., Meyer, F., Value of endoscopic ultrasonography-guided fine needle aspiration (FNA) in the diagnosis of neoplastic tumor(-like) pancreatic lesions in daily clinical practice, <i>Ultraschall in der Medizin</i> , 31, 169-74, 2010	No English
Woolf, K. M., Liang, H., Sletten, Z. J., Russell, D. K., Bonfiglio, T. A., Zhou, Z., False-negative rate of endoscopic ultrasound-guided fine-needle aspiration for pancreatic solid and cystic lesions with matched surgical resections as the gold standard:	No sample size: < 50 patients (n=24)

Study	Reason for exclusion
one institution's experience, <i>Cancer Cytopathology</i> , 121, 449-58, 2013	
Wright, G. P., Morrow, J. B., Shaheen, M., Goslin, B. J., Baatenburg, L., Chung, M. H., Accuracy of endoscopic ultrasound in the evaluation of cystic pancreatic neoplasms: a community hospital experience, <i>Pancreas</i> , 43, 465-9, 2014	Unclear comparison ("a final EUS diagnosis was made based on the examiner's impression and results of fna if performed)
Yamamoto N, Kato H, Tomoda T, Matsumoto K, Sakakihara I, et al. Contrast-enhanced harmonic endoscopic ultrasonography with time-intensity curve analysis for intraductal papillary mucinous neoplasms of the pancreas. <i>Endoscopy</i> . 2016;48(1):26-34	No sample size: < 50 patients (n=30)
Zhan, X. B., Wang, B., Liu, F., Ye, X. F., Jin, Z. D., Li, Z. S., Cyst fluid carcinoembryonic antigen concentration and cytology by endosonography-guided fine needle aspiration in predicting malignant pancreatic mucinous cystic neoplasms, <i>Journal of Digestive Diseases J Dig Dis</i> , 14, 191-5, 2013	No sample size: < 50 patients (20 patients)
Zhang, H. M., Yao, F., Liu, G. F., Wang, X. B., Xiu, D. H., Gen, I., The differences in imaging features of malignant and benign branch duct type of Intraductal Papillary Mucinous Tumor, <i>European Journal of Radiology Eur J Radiol</i> , 80, 744-8, 2011	No sample size: < 50 patients (this study includes 36 patients)
Zhang, S., Defrias, D. V., Alasadi, R., Nayar, R., Endoscopic ultrasound-guided fine needle aspiration (EUS-FNA): experience of an academic centre in the USA, <i>Cytopathology</i> , 21, 35-43, 2010	No sample size: < 50 patients (n=49)
Zhang, Y., Frampton, A. E., Martin, J. L., Kyriakides, C., Bong, J. J., Habib, N. A., Vlavianos, P., Jiao, L. R., 18F-fluorodeoxyglucose positron emission tomography in management of pancreatic cystic tumors, <i>Nuclear Medicine & Biology Nucl Med Biol</i> , 39, 982-5, 2012	No sample size: < 50 patients (n=20)
Zhong N, Zhang L, Takahashi N, Shalmiyev V, Canto MI, et al. Histologic and imaging features of mural nodules in mucinous pancreatic cysts. <i>Clin Gastroenterol Hepatol</i> . 2012 Feb;10(2):192-8, 198.e1-2.	No relevant to PICO (assessment of mural nodules in branch duct IPMNS and mcns and criteria to distinguish mural nodules from mucus.)

G.4.1 People with inherited high risk of pancreatic cancer

Study	Reason for Exclusion
Ansari, D., Rosendahl, A., Elebro, J., Andersson, R., Systematic review of immunohistochemical biomarkers to identify prognostic subgroups of patients with pancreatic cancer, <i>British Journal of Surgery Br J Surg</i> , 98, 1041-55, 2011	No relevant articles
Breitkopf, C. R., Sinicrope, P. S., Rabe, K. G., Brockman, T. A., Patten, C. A., McWilliams, R. R., ... & Petersen, G. M., Factors influencing receptivity to future screening options for pancreatic cancer in those with and without pancreatic cancer family history. <i>Hereditary cancer in clinical practice</i> , 10(1), 8, 2012.	Participants not enrolled in screening/surveillance program.
Bruenderman, E. H., Martin, R. C., 2nd, High-risk population in sporadic pancreatic adenocarcinoma: guidelines for screening, <i>Journal of Surgical Research J Surg Res</i> , 194, 212-9, 2015	Checked, no additional relevant articles.
Calvez-Kelm, F. L., Foll, M., Wozniak, M. B., Durand, G., Chopard, P., Pertesi, M., Delhomme, T., Holcatova, I.,	Conference abstract

Study	Reason for Exclusion
Foretova, L., Janout, V., Fabianova, E., Vallee, M. P., Brennan, P., McKay, J. D., Byrnes, G., Scelo, G., NGS-based detection of KRAS hotspot mutations in plasma cell-free DNA of pancreatic cancer cases, <i>Cancer Research</i> . Conference: 107th Annual Meeting of the American Association for Cancer Research, AACR, 76, 2016	
Chang, J. C., Kundranda, M., Novel Diagnostic and Predictive Biomarkers in Pancreatic Adenocarcinoma, <i>International Journal of Molecular Sciences</i> Int, 18, 20, 2017	Not systematic review
Chari, S. T., Kelly, K., Hollingsworth, M. A., Thayer, S. P., Ahlquist, D. A., Andersen, D. K., Batra, S. K., Brentnall, T. A., Canto, M., Cleeter, D. F., Firpo, M. A., Gambhir, S. S., Go, V. L., Hines, O. J., Kenner, B. J., Klimstra, D. S., Lerch, M. M., Levy, M. J., Maitra, A., Mulvihill, S. J., Petersen, G. M., Rhim, A. D., Simeone, D. M., Srivastava, S., Tanaka, M., Vinik, A. I., Wong, D., Early detection of sporadic pancreatic cancer: summative review, <i>Pancreas</i> , 44, 693-712, 2015	Not systematic review
Collins, J., Dixon, H., Baird, P., Meredith, C., Tumour markers using SurePath liquid-based cytology preparations from endoscopic ultrasound guided fine needle aspiration of solid pancreatic lesions, <i>Journal of Gastroenterology and Hepatology (Australia)</i> , 31, 53, 2016	Conference abstract
Furuhata, A., Minamiguchi, S., Shirahase, H., Kodama, Y., Adachi, S., Sakurai, T., Haga, H., Immunohistochemical Antibody Panel for the Differential Diagnosis of Pancreatic Ductal Carcinoma From Gastrointestinal Contamination and Benign Pancreatic Duct Epithelium in Endoscopic Ultrasound-Guided Fine-Needle Aspiration, <i>Pancreas</i> , 18, 18, 2017	Conference abstract
Grover, S., Jajoo, K., Screening for Pancreatic Cancer in High-risk Populations, <i>Gastroenterology Clinics of North America</i> , 45, 117-127, 2016	Not systematic review
Hall, M., Olopade, O., Pancreatic cancer and BRCA mutation in familial breast cancer families, <i>Journal of Clinical Oncology</i> J Clin Oncol, 23, 9550, 2005	Conference abstract
Harinck, F., Nagtegaal, T., Kluijt, I., Aalfs, C., Smets, E., Poley, J. W., Wagner, A., van Hooft, J., Fockens, P., Bruno, M., Bleiker, E. M., Feasibility of a pancreatic cancer surveillance program from a psychological point of view, <i>Genetics in Medicine</i> , 13, 1015-24, 2011	More recent results updated and included in Konings et al. 2016
Hosmer, A., Merajver, S., Stoffel, E., Milliron, K., Kwon, R., Elta, G., Scheiman, J., Anderson, M., Menees, S. B., EUS and MRI/MRCP findings in pancreatic cancer screening for individuals who harbor a BRCA2 deleterious germline mutation, <i>American Journal of Gastroenterology</i> , 111, S13, 2016	Conference abstract
Hussein, N. A., Kholy, Z. A., Anwar, M. M., Ahmad, M. A., Ahmad, S. M., Plasma miR-22-3p, miR-642b-3p and miR-885-5p as diagnostic biomarkers for pancreatic cancer, <i>Journal of Cancer Research & Clinical Oncology</i> J Cancer Res Clin Oncol, 143, 83-93, 2017	Participants not adults with inherited high risk of PC
Ibrahim, I. S., Bonsing, B. A., Swijnenburg, R. J., Welling, L., Veenendaal, R. A., Wasser, M. N., Morreau, H., Inderson, A., Vasen, H. F., Dilemmas in the management of screen-detected lesions in patients at high risk for pancreatic cancer, <i>Familial Cancer</i> Fam Cancer, 16, 111-	Case study of 2 patients

Study	Reason for Exclusion
115, 2017	
Kanda, M., Knight, S., Topazian, M., Syngal, S., Farrell, J., Lee, J., ... & Fujiwara, S., Mutant GNAS detected in duodenal collections of secretin-stimulated pancreatic juice indicates the presence or emergence of pancreatic cysts. <i>Gut</i> , <i>gutjnl-2012</i> , 2012	No relevant data for detection of PC
Kim, E. R., Bae, S. Y., Lee, K. H., Lee, K. T., Son, H. J., Rhee, J. C., Lee, J. K., Is health screening beneficial for early detection and prognostic improvement in pancreatic cancer?, <i>Gut Liver</i> , 5, 194-9, 2011	General screening study, sample not HRIs.
Konings, I. C., Harinck, F., Poley, J. W., Aalfs, C. M., van Rens, A., Krak, N. C., Wagner, A., Nio, C. Y., Sijmons, R. H., van Dullemen, H. M., Vleggaar, F. P., Ausems, M. G., Fockens, P., van Hooft, J. E., Bruno, M. J., Dutch Research Group on Pancreatic Cancer Surveillance in High-Risk, Individuals, Prevalence and Progression of Pancreatic Cystic Precursor Lesions Differ Between Groups at High Risk of Developing Pancreatic Cancer, <i>Pancreas</i> , 46, 28-34, 2017	Diagnostic yield data reported in Harinck et al. 2016
Kuroczycki-Saniutycz, S., Grzeszczuk, A., Zwierz, Z. W., Kolodziejczyk, P., Szczesiul, J., Zalewska-Szajda, B., Oscilowicz, K., Waszkiewicz, N., Zwierz, K., Dariusz Szajda, S., Prevention of pancreatic cancer, <i>Wspolczesna Onkologia</i> , 21, 30-34, 2017	Not systematic review/commentary article
Lachter, J., Cooperman, J. J., Shiller, M., Suissa, A., Yassin, K., Cohen, H., Reshef, R., The impact of endoscopic ultrasonography on the management of suspected pancreatic cancer--a comprehensive longitudinal continuous evaluation, <i>Pancreas</i> , 35, 130-4, 2007	<66% high risk individuals. No separate data for HRI group provided.
Langer, P., Kann, P. H., Fendrich, V., Habbe, N., Schneider, M., Sina, M., Slater, E. P., Heverhagen, J. T., Gress, T. M., Rothmund, M., Bartsch, D. K., Five years of prospective screening of high-risk individuals from families with familial pancreatic cancer, <i>Gut</i> , 58, 1410-1418, 2009	Updated MRI and EUS results published in Potjer 2013 and Schneider 2011, respectively.
Linghu, E., Wang, Y., Wang, Z., Wang, X., Tang, P., Yang, J., Sun, Y., A prospective study of eus features, cyst fluid CEA, and lipase for differentiation of small pancreatic cystic neoplasms, <i>American Journal of Gastroenterology</i> , 111, S28-S29, 2016	Conference abstract
Lu, C., Xu, C. F., Wan, X. Y., Zhu, H. T., Yu, C. H., Li, Y. M., Screening for pancreatic cancer in familial high-risk individuals: A systematic review, <i>World Journal of Gastroenterology</i> , 21, 8678-86, 2015	Checked, no additional relevant articles
Maheu, C., Vodermaier, A., Rothenmund, H., Gallinger, S., Ardiles, P., Semotiuk, K., Holter, S., Thayalan, S., Esplen, M. J., Pancreatic cancer risk counselling and screening: impact on perceived risk and psychological functioning, <i>Familial Cancer</i> , 9, 617-24, 2010	No relevant outcomes
Mastoraki, A., Chatzimavridou-Grigoriadou, V., Chatzipetrou, V., Mastoraki, S., Papanikolaou, I. S., Danias, N., Smyrniotis, V., Arkadopoulos, N., Familial pancreatic cancer: challenging diagnostic approach and therapeutic management, <i>Journal of Gastrointestinal Cancer</i> <i>J Gastrointest Cancer</i> , 45, 256-61, 2014	Narrative review
Mocci, E., Guillen-Ponce, C., Earl, J., Marquez, M., Solera, J., Salazar-Lopez, M. T., Calcedo-Arnaiz, C., Vazquez-Sequeiros, E., Montans, J., Munoz-Beltran, M., Vicente-	More recent results reported in Bartsch et al. 2016.

Study	Reason for Exclusion
Bartulos, A., Gonzalez-Gordaliza, C., Sanjuanbenito, A., Guerrero, C., Mendia, E., Lisa, E., Lobo, E., Martinez, J. C., Real, F. X., Malats, N., Carrato, A., PanGen-Fam: Spanish registry of hereditary pancreatic cancer, <i>European Journal of Cancer</i> , 51, 1911-1917, 2015	
Papafragkakis, C., Thaiudom, S., Lanke, G., Chakinala, R. C., Wang, X., Bhutani, M. S., Lee, J., Pancreatic cancer screening (PCS) in high risk individuals (HRI) with genetic mutations, <i>Gastroenterology</i> , 150, S255, 2016	Conference abstract
Parker, L. A., Lumbreras, B., Lopez, T., Hernandez-Aguado, I., Porta, M., How useful is it clinically to analyse the K-ras mutational status for the diagnosis of exocrine pancreatic cancer? A systematic review and meta-analysis, <i>European Journal of Clinical Investigation</i> , 41, 793-805, 2011	Checked, no relevant articles
Parker, L. A., Porta, M., Lumbreras, B., Lopez, T., Guarner, L., Hernandez-Aguado, I., Carrato, A., Corominas, J. M., Rifa, J., Fernandez, E., Alguacil, J., Malats, N., Real, F. X., Clinical validity of detecting K-ras mutations for the diagnosis of exocrine pancreatic cancer: a prospective study in a clinically-relevant spectrum of patients, <i>European Journal of Epidemiology</i> <i>Eur J Epidemiol</i> , 26, 229-36, 2011	Participants not adults with risk of PC
Pugliese, V., Pujic, N., Saccomanno, S., Gatteschi, B., Pera, C., Aste, H., Ferrara, G. B., Nicolo, G., Pancreatic intraductal sampling during ERCP in patients with chronic pancreatitis and pancreatic cancer: cytologic studies and k-ras-2 codon 12 molecular analysis in 47 cases, <i>Gastrointestinal endoscopy</i> , 54, 595-9, 2001	Comment article
Queneau, P. E., Adessi, G. L., Thibault, P., Cleau, D., Heyd, B., Manton, G., Carayon, P., Early detection of pancreatic cancer in patients with chronic pancreatitis: diagnostic utility of a K-ras point mutation in the pancreatic juice, <i>American journal of gastroenterology</i> , 96, 700-4, 2001	Unclear whether participants have hereditary chronic pancreatitis
Robays, J., Stordeur, S., Hulstaert, F., Maerken, T., Claes, K., Janin, N., Matthijs, G., t Kint de Roodenbeke, D., Berlière, M., Wildiers, H., Poppe, B., Oncogenetic testing and follow-up for women with familial breast/ovarian cancer, LiFraumeni syndrome and Cowden syndrome (Structured abstract), <i>Health Technology Assessment Database</i> , 2015	No relevant articles
Rulyak, S. J., Brentnall, T. A., Inherited pancreatic cancer: surveillance and treatment strategies for affected families, <i>Pancreatology</i> , 1, 477-85, 2001	Updated results reported in Kimmey 2002
Schneider, R., Slater, E. P., Sina, M., Habbe, N., Fendrich, V., Matthai, E., Langer, P., Bartsch, D. K., German national case collection for familial pancreatic cancer (FaPaCa): ten years experience, <i>Familial cancer</i> , 10, 323-30, 2011	More recent results reported in Bartsch et al. 2016.
Shaojun, L., Sun, S., Gao, J., Sun, F., Methylated genes p16 and ppenk for diagnoses of pancreatic cancer: Systematic review and meta-analysis, <i>International Journal of Clinical and Experimental Medicine</i> , 9, 15379-15386, 2016	Checked, no relevant articles
Shin, E. J., Topazian, M., Goggins, M. G., Syngal, S., Saltzman, J. R., Lee, J. H., Farrell, J. J., Canto, M. I., Linear-array EUS improves detection of pancreatic lesions in high-risk individuals: a randomized tandem study, <i>Gastrointestinal Endoscopy</i> , 82, 812-8, 2015	No relevant data

Study	Reason for Exclusion
Slotwinski, R., Slotwinska, S. M., Diagnostic value of selected markers and apoptotic pathways for pancreatic cancer, <i>Central European Journal of Immunology</i> , 41, 392-403, 2016	Not systematic review
Stoffel, E., Carulli, A., McCarthy, S., Hosmer, A., Scheiman, J., Koeppe, E., Everett, J., Kwon, R., Prevalent and incident lesions identified with pancreatic cancer screening in high risk individuals, <i>American Journal of Gastroenterology</i> , 111, S35, 2016	Conference abstract
Vasen, H. F., Wasser, M., van Mil, A., Tollenaar, R. A., Konstantinovski, M., Gruis, N. A., Bergman, W., Hes, F. J., Hommes, D. W., Offerhaus, G. J., Morreau, H., Bonsing, B. A., de Vos tot Nederveen Cappel, W. H., Magnetic resonance imaging surveillance detects early-stage pancreatic cancer in carriers of a p16-Leiden mutation, <i>Gastroenterology</i> , 140, 850-6, 2011	More recent MRI results published in Potjer 2013
Wada, K., Takaori, K., Traverso, L. W., Screening for Pancreatic Cancer, <i>Surgical Clinics of North America Surg Clin North Am</i> , 95, 1041-52, 2015	Not systematic review
Xu, Y., Hu, D. M., Zhu, Q., Sun, Y. W., Performance of K-ras mutation analysis plus endoscopic ultrasoundguided fine-needle aspiration for differentiating diagnosis of pancreatic solid mass: A meta-analysis, <i>Chinese Medical Journal</i> , 127, 3296-3301, 2014	Not HRI or at risk sample.
Zhao, Y. P., Zhou, P. T., Ji, W. P., Wang, H., Fang, M., Wang, M. M., Yin, Y. P., Jin, G., Gao, C. F., Validation of N-glycan markers that improve the performance of CA19-9 in pancreatic cancer, <i>Clinical & Experimental Medicine Clin Exp Med</i> , 17, 9-18, 2017	Sample not high risk individuals

G.5.1 Referral to specialist multidisciplinary teams

Study	Reason for Exclusion
Adam, U., Riediger, H., Keck, T., Hopt, U. T., Makowiec, F., Morbidity and mortality after pancreatic head resections: Experience of a high-volume pancreatic surgeon in a non-academic community hospital setting, <i>Gastroenterology</i> , 1), A916, 2009	Abstract
Adekoya, P., Obirieze, A., Onwugbutor, M., Cole, M., Cornwell, E. E., Frederick, W. A. I., The impact of complications after pancreaticoduodenectomy in elderly patients: A review of the nationwide inpatient sample database, <i>American Surgeon</i> , 80, 1175-1178, 2014	No interventions of interest, paper discusses complications post pancreaticoduodenectomy, not MDT referral
Alemi, F., Alseidi, A., Scott Helton, W., Rocha, F. G., Multidisciplinary management of locally advanced pancreatic ductal adenocarcinoma, <i>Current Problems in Surgery Curr Probl Surg</i> , 52, 362-98, 2015	Narrative review
Amin, S., Kumar, S., Chabot, J. A., Frucht, H., Significantly Improved Survival From Pancreatic Adenocarcinoma in a "High-Volume" Multidisciplinary Pancreas Center, <i>Gastroenterology</i> , 140, S678-S679, 2011	Abstract
Andren-Sandberg, A., Organization of care for pancreatic cancer, <i>North American Journal of Medical Sciences</i> , 3, 400-405, 2011	Narrative review
Andren-Sandberg, A., Neoptolemos, J. P., Resection for pancreatic cancer in the new millennium, <i>Pancreatology</i> , 2, 431-439, 2002	Narrative review

Study	Reason for Exclusion
Ansari, D., Williamsson, C., Tingstedt, B., Andersson, B., Lindell, G., Andersson, R., Pancreaticoduodenectomy-the transition from a low- to a high-volume center, <i>Scandinavian Journal of Gastroenterology</i> , 49, 481-484, 2014	Comparisons made at different time points (2000 vs 2012) during transition to high volume centre.
Balzano, G., Zerbi, A., Capretti, G., Rocchetti, S., Capitanio, V., Di Carlo, V., Effect of hospital volume on outcome of pancreaticoduodenectomy in Italy, <i>British Journal of Surgery</i> , 95, 357-362, 2008	Compares hospital volume, however no description MDT structure/speciality
Berretti, D., Grimaldi, F., Pevere, S., Marino, M., Angione, V., Zilli, M., EUS-FNA for pancreatic neuroendocrine tumors: A single referral centre experience, <i>Neuroendocrinology</i> , 96, 21, 2012	Abstract
Bilimoria, K. Y., Bentrem, D. J., Ko, C. Y., Tomlinson, J. S., Stewart, A. K., Winchester, D. P., Talamonti, M. S., Multimodality therapy for pancreatic cancer in the U.S. : utilization, outcomes, and the effect of hospital volume, <i>Cancer</i> , 110, 1227-34, 2007	Hospital volume and specialist centres only, no specific data on MDT structure
Bilimoria, K. Y., Bentrem, D. J., Talamonti, M. S., Stewart, A. K., Winchester, D. P., Ko, C. Y., Risk-based selective referral for cancer surgery: a potential strategy to improve perioperative outcomes, <i>Annals of Surgery</i> , 251, 708-16, 2010	Hospital volume and specialist centres only, no specific data on MDT structure
Birkmeyer, J. D., Finlayson, S. R. G., Tosteson, A. N. A., Sharp, S. M., Warshaw, A. L., Fisher, E. S., Effect of hospital volume on in-hospital mortality with pancreaticoduodenectomy, <i>Surgery</i> , 125, 250-256, 1999	Compares hospital volume, however no description MDT structure/speciality
Birkmeyer, J. D., Sun, Y., Goldfaden, A., Birkmeyer, N. J., Stukel, T. A., Volume and process of care in high-risk cancer surgery, <i>Cancer</i> , 106, 2476-81, 2006	Compares hospital volume, however no description MDT structure/speciality
Birkmeyer, J. D., Sun, Y., Wong, S. L., Stukel, T. A., Hospital volume and late survival after cancer surgery, <i>Annals of Surgery</i> , 245, 777-83, 2007	Compares hospital volume, however no description MDT structure/speciality
Birkmeyer, N. J. O., Goodney, P. P., Stukel, T. A., Hillner, B. E., Birkmeyer, J. D., Do cancer centers designated by the National Cancer Institute have better surgical outcomes?, <i>Cancer</i> , 103, 435-441, 2005	Hospital volume and specialist centres only, no specific data on MDT structure
Coupland, V. H., Konfortion, J., Jack, R. H., Allum, W., Kocher, H. M., Riaz, S. P., Luchtenborg, M., Moller, H., Resection rate, hospital procedure volume and survival in pancreatic cancer patients in England: Population-based study, 2005-2009, <i>European Journal of Surgical Oncology</i> , 42, 190-6, 2016	Hospital volume and specialist centres only, no specific data on MDT structure
Cunningham, J. D., O'Donnell, N., Starker, P., Surgical outcomes following pancreatic resection at a low-volume community hospital: do all patients need to be sent to a regional cancer center?, <i>American Journal of Surgery</i> , 198, 227-230, 2009	Non comparative study
Derogar, M., Blomberg, J., Sadr-Azodi, O., Hospital teaching status and volume related to mortality after pancreatic cancer surgery in a national cohort, <i>British Journal of Surgery</i> , 102, 548-57; discussion 557, 2015	Compares hospital volume, however no description MDT structure/speciality
Di Carlo, V., Zerbi, A., Balzano, G., What is the role of pancreas units today?, <i>Jop: Journal of the Pancreas [Electronic Resource]</i> Jop, 7, 101-3, 2006	Narrative review
Finlayson, E. V., Birkmeyer, J. D., Effects of hospital volume on life expectancy after selected cancer operations in older adults: a decision analysis, <i>Journal of the American College of Surgeons</i> , 196, 410-7, 2003	Health economic modelling study
Gooiker, G. A., Lemmens, V. E., Besselink, M. G., Busch, O. R., Bonsing, B. A., Molenaar, I. Q., Tollenaar, R. A., de Hingh, I. H.,	Compares hospital volume, however no description MDT

Study	Reason for Exclusion
Wouters, M. W., Impact of centralization of pancreatic cancer surgery on resection rates and survival, British Journal of Surgery, 101, 1000-5, 2014	structure/speciality
Gooiker, G. A., Van Der Geest, L. G. M., Wouters, M. W. J. M., Vonk, M., Karsten, T. M., Tollenaar, R. A. E. M., Bonsing, B. A., Quality improvement of pancreatic surgery by centralization in the Western Part of the Netherlands, Annals of Surgical Oncology, 18, 1821-1829, 2011	Comparison across 3 different time (years) points, consisted of regional centre vs. mix of regional/local.
Hata, T., Motoi, F., Ishida, M., Naitoh, T., Katayose, Y., Egawa, S., Unno, M., Effect of Hospital Volume on Surgical Outcomes After Pancreaticoduodenectomy: A Systematic Review and Meta-analysis, Annals of Surgery, 263, 664-72, 2016	Compares hospital volume, however no description MDT structure/speciality
Lin, H. C., Xirasagar, S., Lee, H. C., Chai, C. Y., Hospital volume and inpatient mortality after cancer-related gastrointestinal resections: The experience of an Asian country, Annals of Surgical Oncology, 13, 1182-1188, 2006	Compares hospital volume, however no description MDT structure/speciality
Nienhuijs, S. W., Rutten, H. J. T., Luiten, E. J. T., van Driel, O. J. R., Reemst, P. H. M., Lemmens, Vepp, de Hingh, Ihjt, Reduction of in-hospital mortality following regionalisation of pancreatic surgery in the south-east of The Netherlands, Ejsso, 36, 652-656, 2010	Comparative audit across 2 different time (years) points, consisted of regional centre vs. mix of regional/local.
Parks, R. W., Bettschart, V., Frame, S., Stockton, D. L., Brewster, D. H., Garden, O. J., Benefits of specialisation in the management of pancreatic cancer: Results of a Scottish population-based study, British Journal of Cancer, 91, 459-465, 2004	Only focuses on specialisation of the Consultant - Specialist, Non specialist, and clinician with interest in the pancreas.
Pegan, V., Tomazic, A., Flautner, L., Kupcsulik, P. K., Rozsa, I., Benefits of high hospital volume in pancreatic resections, 345-349, 1999	No comparative arm
Perez-Lopez, P., Bare, M., Touma-Fernandez, A., Sarria-Santamera, A., Relationship between volume and in-hospital mortality in digestive oncological surgery, Cirugia Espanola, 94, 151-158, 2016	Compares hospital volume, however no description MDT structure/speciality
Prades, J., Remue, E., van Hoof, E., Borrás, J. M., Is it worth reorganising cancer services on the basis of multidisciplinary teams (MDTs)? A systematic review of the objectives and organisation of MDTs and their impact on patient outcomes, Health Policy, 119, 464-474, 2015	Mixed cancer population.
Schiffman, S. C., Abberbock, S., Winters, S., Valko, C., Steve, J., Zureikat, A. H., Zeh, H. J., 3rd, Hogg, M. E., A pancreatic cancer multidisciplinary clinic: insights and outcomes, Journal of Surgical Research, 202, 246-52, 2016	Focuses on specialist MDT clinic, which is not the same as inpatient specialist MDT
Simunovic, M., Urbach, D., Major, D., Sutradhar, R., Baxter, N., To, T., Brown, A., Davis, D., Levine, M. N., Assessing the volume-outcome hypothesis and region-level quality improvement interventions: pancreas cancer surgery in two Canadian Provinces, Annals of Surgical Oncology, 17, 2537-44, 2010	Compares hospital volume, however no description MDT structure/speciality
Skipworth, R. J. E., Parks, R. W., Stephens, N. A., Graham, C., Brewster, D. H., Garden, O. J., Paterson-Brown, S., The relationship between hospital volume and post-operative mortality rates for upper gastrointestinal cancer resections: Scotland 1982-2003, Ejsso, 36, 141-147, 2010	Compares hospital volume, however no description MDT structure/speciality
Tamagno, G., Sheahan, K., Skehan, S. J., Geoghegan, J. G., Fennelly, D., Collins, C. D., Maguire, D., Traynor, O., Brophy, D. P., Cantwell, C., Swan, N., McGowan, L., O'Toole, D., O'Shea, D., Initial impact of a systematic multidisciplinary approach on the management of patients with gastroenteropancreatic	Population of gastroenteropancreatic neuroendocrine tumor

Study	Reason for Exclusion
neuroendocrine tumor, <i>Endocrine</i> , 44, 504-509, 2013	
Tol, Jamg, van Gulik, T. M., Busch, O. R. C., Gouma, D. J., Centralization of Highly Complex Low-Volume Procedures in Upper Gastrointestinal Surgery. A Summary of Systematic Reviews and Meta-Analyses, <i>Digestive surgery</i> , 29, 374-383, 2012	Compares hospital volume, however no description MDT structure/speciality
Toomey, P. G., Teta, A. F., Patel, K. D., Ross, S. B., Rosemurgy, A. S., High-volume surgeons vs high-volume hospitals: Are best outcomes more due to who or where?, <i>American Journal of Surgery</i> , 211, 59-63, 2016	Transfer of surgeon from high volume to low volume hospital, however no description of MDT structure/speciality
Topal, B., Van de Sande, S., Fieuws, S., Penninckx, F., Effect of centralization of pancreaticoduodenectomy on nationwide hospital mortality and length of stay, <i>British Journal of Surgery</i> , 94, 1377-81, 2007	Compares hospital volume, however no description MDT structure/speciality
van der Geest, L. G., van Rijssen, L. B., Molenaar, I. Q., de Hingh, I. H., Groot Koerkamp, B., Busch, O. R., Lemmens, V. E., Besselink, M. G., Dutch Pancreatic Cancer, Group, Volume-outcome relationships in pancreatoduodenectomy for cancer, <i>HPB</i> , 18, 317-24, 2016	Compares hospital volume, however no description MDT structure/speciality
van Heek, N. T., Kuhlmann, K. F., Scholten, R. J., de Castro, S. M., Busch, O. R., van Gulik, T. M., Obertop, H., Gouma, D. J., Hospital volume and mortality after pancreatic resection: a systematic review and an evaluation of intervention in the Netherlands, <i>Annals of Surgery</i> , 242, 781-8, discussion 788-90, 2005	Compares hospital volume, however no description MDT structure/speciality
Westgaard, A., Laronningen, S., Mellem, C., Eide, T. J., Clausen, O. P., Moller, B., Gladhaug, I. P., Are survival predictions reliable? Hospital volume versus standardisation of histopathologic reporting for accuracy of survival estimates after pancreatoduodenectomy for adenocarcinoma, <i>European Journal of Cancer</i> , 45, 2850-9, 2009	No description MDT structure/speciality
Young, J., Thompson, A., Tait, I., Waugh, L., McPhillips, G., Centralization of Services and Reduction of Adverse Events in Pancreatic Cancer Surgery, <i>World Journal of Surgery</i> , 37, 2229-2233, 2013	Non comparative study

G.61 Staging

Study	Reason for Exclusion
Agarwal, B., Gogia, S., Eloubeidi, M. A., Correa, A. M., Ho, L., Collins, B. T., Malignant mediastinal lymphadenopathy detected by staging EUS in patients with pancreaticobiliary cancer, <i>Gastrointestinal endoscopy</i> , 61, 849-53, 2005	No data on sensitivity/specificity or change in management.
Ahmad, N. A., Lewis, J. D., Siegelman, E. S., Rosato, E. F., Ginsberg, G. G., Kochman, M. L., Role of endoscopic ultrasound and magnetic resonance imaging in the preoperative staging of pancreatic adenocarcinoma, <i>American Journal of Gastroenterology</i> , 95, 1926-31, 2000	Retrospective study
Ahmed, S. I., Bochkarev, V., Oleynikov, D., Sasson, A. R., Patients with pancreatic adenocarcinoma benefit from staging laparoscopy, <i>Journal of Laparoendoscopic & Advanced Surgical Techniques. Part A</i> , 16, 458-63, 2006	Retrospective cohort

Study	Reason for Exclusion
Al-Hawary, M. M., Kaza, R. K., Francis, I. R., Optimal Imaging Modalities for the Diagnosis and Staging of Periapillary Masses, Surgical Oncology Clinics of North America Surg Oncol Clin N Am, 25, 239-253, 2016	Narrative review article.
Al-Hawary, M. M., Kaza, R. K., Wasnik, A. P., Francis, I. R., Staging of pancreatic cancer: role of imaging, Seminars in Roentgenology Semin Roentgenol, 48, 245-52, 2013	Narrative review article
Allen, Victoria B, Gurusamy, Kurinchi Selvan, Takwoingi, Yemisi, Kalia, Amun, Davidson, Brian R, Diagnostic accuracy of laparoscopy following computed tomography (CT) scanning for assessing the resectability with curative intent in pancreatic and periapillary cancer, Cochrane Database of Systematic Reviews, 2016	This MA includes 15 studies, of which part were on periapillary cancer. Therefore references have been hand-searched and 3 trials from this review have been included
Arcidiacono, P. G., Bhutani, M. S., Giovannini, M., EURO-EUS 2003: pancreatic tumor: impact of endoscopic ultrasonography on diagnosis, staging and treatment, Cancer Biology & Therapy Cancer Biol Ther, 3, 477-81, 2004	Narrative review article.
Arcidiacono, P. G., Carrara, S., Endoscopic ultrasonography: impact in diagnosis, staging and management of pancreatic tumors. An overview, Jop: Journal of the Pancreas [Electronic Resource] Jop, 5, 247-52, 2004	Narrative review article.
Ardengh, J. C., de Paulo, G. A., Ferrari, A. P., Pancreatic carcinomas smaller than 3.0 cm: endosonography (EUS) in diagnosis, staging and prediction of resectability, HPB, 5, 226-30, 2003	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Asagi, A., Ohta, K., Nasu, J., Tanada, M., Nadano, S., Nishimura, R., Teramoto, N., Yamamoto, K., Inoue, T., Iguchi, H., Utility of contrast-enhanced FDG-PET/CT in the clinical management of pancreatic cancer: impact on diagnosis, staging, evaluation of treatment response, and detection of recurrence, Pancreas, 42, 11-9, 2013	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Bang, S., Chung, H. W., Park, S. W., Chung, J. B., Yun, M., Lee, J. D., Song, S. Y., The clinical usefulness of 18-fluorodeoxyglucose positron emission tomography in the differential diagnosis, staging, and response evaluation after concurrent chemoradiotherapy for pancreatic cancer, Journal of Clinical Gastroenterology J Clin Gastroenterol, 40, 923-9, 2006	no relevant to PICO (no setting/population of interest according to the PICO)
Barabino, M., Santambrogio, R., Pisani Ceretti, A., Scalzone, R., Montorsi, M., Opocher, E., Is there still a role for laparoscopy combined with laparoscopic ultrasonography in the staging of pancreatic cancer?, Surgical Endoscopy and Other Interventional Techniques, 25, 160-5, 2011	no population (40 people with periapillary or pancreatic cancer - mixed population without clustering the results by cancer type)
Beenen, E., Van Roest, M. H. G., Sieders, E., Peeters, P. M. J. G., Porte, R. J., De Boer, M. T., De Jong, K. P., Staging laparoscopy in patients scheduled for pancreaticoduodenectomy minimizes hospitalization in the remaining life time when metastatic carcinoma is	Separate data for pancreatic cancer patients not reported

Study	Reason for Exclusion
found, European Journal of Surgical Oncology, 40, 989-994, 2014	
Bipat, S., Phoa, S. S., van Delden, O. M., Bossuyt, P. M., Gouma, D. J., Lameris, J. S., Stoker, J., Ultrasonography, computed tomography and magnetic resonance imaging for diagnosis and determining resectability of pancreatic adenocarcinoma: a meta-analysis, Journal of Computer Assisted Tomography, 29, 438-45, 2005	This MA includes 68 studies, of which most part were published before of 2000. Therefore references have been hand-searched and 1 trial from this review has been included
Bley, T. A., Uhl, M., Simon, P., Mayerle, J., Ghanem, N. A., Geml, B., Saueressig, U., Langer, M., Diagnostic accuracy of MRI for preoperative staging of pancreatic carcinoma: tendency for understaging, In Vivoin Vivo, 19, 983-7, 2005	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Boschert, S., Preoperative staging by CT favored in pancreatic cancer, Oncology Report, 16, 2008	Commentary article.
Callaway, M. P., Bailey, D., Staging computed tomography in upper GI malignancy. A survey of the 5 cancer networks covered by the South West Cancer Intelligence Service, Clinical RadiologyClin Radiol, 60, 794-800, 2005	No data on sensitivity, specificity or resectability. Looks at management in different centres.
Chew, C., O'Dwyer, P. J., The value of liver magnetic resonance imaging in patients with findings of resectable pancreatic cancer on computed tomography, Singapore Medical JournalSingapore Med J, 57, 334-8, 2016	no relevant to PICO (no setting/population of interest according to the PICO)
Contreras, C. M., Stanelle, E. J., Mansour, J., Hinshaw, J. L., Rikkers, L. F., Rettammel, R., Mahvi, D. M., Cho, C. S., Weber, S. M., Staging laparoscopy enhances the detection of occult metastases in patients with pancreatic adenocarcinoma, Journal of surgical oncology, 100, 663-9, 2009	<50 participants
Croome, K. P., Jayaraman, S., Schlachta, C. M., Preoperative staging of cancer of the pancreatic head: is there room for improvement?, Canadian Journal of SurgeryCan J Surg, 53, 171-4, 2010	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
De Rosa, A., Cameron, I. C., Gomez, D., Indications for staging laparoscopy in pancreatic cancer, Hpb, 18, 13-20, 2016	Systematic review. Checked; Halloran et al. 2008 <66% PC patients
de Werra, C., Quarto, G., Aloia, S., Perrotta, S., Del Giudice, R., Di Filippo, G., Furino, E., Amato, B., Benassai, G., The use of intraoperative ultrasound for diagnosis and stadiation in pancreatic head neoformations, International Journal Of SurgeryInt J Surg, 21 Suppl 1, S55-8, 2015	Unclear staging results. No sensitivity/specificity/resectability data.
Delbeke, D., Pinson, C. W., Pancreatic tumors: role of imaging in the diagnosis, staging, and treatment, Journal of Hepato-Biliary-Pancreatic SurgeryJ Hepatobiliary Pancreat Surg, 11, 4-10, 2004	Narrative review article.
Einersen, P., Epelboym, I., Winner, M. D., Leung, D., Chabot, J. A., Allendorf, J. D., Positron emission tomography (PET) has limited utility in the staging of pancreatic adenocarcinoma, Journal of Gastrointestinal SurgeryJ Gastrointest Surg, 18, 1441-4, 2014	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data

Study	Reason for Exclusion
Francis, I. R., Pancreatic adenocarcinoma: diagnosis and staging using multidetector-row computed tomography (MDCT) and magnetic resonance imaging (MRI), <i>Cancer Imaging</i> <i>Cancer Imaging</i> , 7 Spec No A, S160-5, 2007	Narrative review article.
Freeny, P. C., CT diagnosis and staging of pancreatic carcinoma, <i>European radiology</i> , 15 Suppl 4, D96-9, 2005	Narrative review article.
French, J. J., Loverseed, A., Bennett, M. K., Charnley, R. M., Detection of disseminated pancreatic cancer cells in lymph nodes by immunohistochemistry: Impact on staging and prognosis, <i>Gastrointestinal Oncology</i> , 4, 223-226, 2002	Diagnostic test not relevant to protocol.
Grassetto, G., Rubello, D., Role of FDG-PET/CT in diagnosis, staging, response to treatment, and prognosis of pancreatic cancer, <i>American Journal of Clinical Oncology: Cancer Clinical Trials</i> , 34, 111-114, 2011	Narrative review article.
Grossjohann, H. S., Rappeport, E. D., Jensen, C., Svendsen, L. B., Hillingso, J. G., Hansen, C. P., Nielsen, M. B., Usefulness of contrast-enhanced transabdominal ultrasound for tumor classification and tumor staging in the pancreatic head, <i>Scandinavian Journal of Gastroenterology</i> <i>Scand J Gastroenterol</i> , 45, 917-24, 2010	<50 participants
Hariharan, D., Constantinides, V. A., Froeling, F. E., Tekkis, P. P., Kocher, H. M., The role of laparoscopy and laparoscopic ultrasound in the preoperative staging of pancreatico-biliary cancers--A meta-analysis, <i>European Journal of Surgical Oncology</i> , 36, 941-8, 2010	no population (this review included periampullary or pancreatic cancer - mixed population without clustering the results by cancer type)
Hennig, R., Tempia-Caliera, A. A., Hartel, M., Buchler, M. W., Friess, H., Staging laparoscopy and its indications in pancreatic cancer patients, <i>Digestive Surgery</i> <i>Dig Surg</i> , 19, 484-8, 2002	Narrative review article.
Hunt, G. C., Faigel, D. O., Assessment of EUS for diagnosing, staging, and determining resectability of pancreatic cancer: a review, <i>Gastrointestinal endoscopy</i> , 55, 232-7, 2002	Narrative review article.
Jemaa, Y., Houissa, F., Trabelsi, S., Moussa, A., Belhouchet, H., Mouelhi, L., Bouraoui, M., Bouzaidi, S., Debbeche, R., Ben Yedder, J., Salem, M., Najjar, T., Endoscopic ultrasonography versus helical CT in diagnosis and staging of pancreatic cancer, <i>Tunisie Medicale</i> <i>Tunis Med</i> , 86, 346-9, 2008	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Jerusalem, G., Hustinx, R., Beguin, Y., Fillet, G., The value of positron emission tomography (PET) imaging in disease staging and therapy assessment, <i>Annals of oncology</i> , 13, 227-234, 2002	Narrative review article
Jimenez, R. E., Warshaw, A. L., Fernandez-Del Castillo, C., Laparoscopy and peritoneal cytology in the staging of pancreatic cancer, <i>Journal of Hepato-Biliary-Pancreatic Surgery</i> <i>J Hepatobiliary Pancreat Surg</i> , 7, 15-20, 2000	Narrative review article.
Karachristos, A., Scarmeas, N., Hoffman, J. P., CA 19-9 levels predict results of staging laparoscopy in	Retrospective study

Study	Reason for Exclusion
pancreatic cancer, Journal of Gastrointestinal SurgeryJ Gastrointest Surg, 9, 1286-92, 2005	
Karoumpalis, I., Sigalas, P., Salla, C., Diakatou, E., Balatsos, V., Zografos, G., Delis, V., Endoscopic ultrasound staging and guided fine needle aspiration biopsy in patients with resectable pancreatic malignancies: a single-center prospective experience, Onkologie, 34, 533-7, 2011	Data on diagnostic accuracy only, not impact on staging.
Kauhanen, S., Seppaanen, M., Ovaska, J., Minn, H., Bergman, J., Korsoff, P., Salmela, P., Saltevo, J., Sane, T., Valimaki, M., Nuutila, P., The clinical value of [¹⁸ F]fluorodihydroxyphenylalanine positron emission tomography in primary diagnosis, staging, and restaging of neuroendocrine tumors, Endocrine-Related CancerEndocr Relat Cancer, 16, 255-265, 2009	<50 patients
Kim, Y. E., Park, M. S., Hong, H. S., Kang, C. M., Choi, J. Y., Lim, J. S., Lee, W. J., Kim, M. J., Kim, K. W., Effects of neoadjuvant combined chemotherapy and radiation therapy on the CT evaluation of resectability and staging in patients with pancreatic head cancer, Radiology, 250, 758-65, 2009	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Kishiwada, M., Kawarada, Y., Taoka, H., Isaji, S., Management of advanced pancreatic cancer: staging laparoscopy and immunochemotherapy--a new treatment strategy, Hepato-gastroenterology, 49, 1704-6, 2002	No diagnostic accuracy data.
Kulig, J., Popiela, T., Zajac, A., Klek, S., Kolodziejczyk, P., The clinical value of imaging modalities (USG, EUS, CT) in pancreatic carcinoma staging, Nowotwory, 54, 555-559, 2004	Retrospective study; <50 patients
Kulig, J., Popiela, T., Zajac, A., Klek, S., Kolodziejczyk, P., The value of imaging techniques in the staging of pancreatic cancer, Surgical endoscopy, 19, 361-5, 2005	Retrospective study
Kulig, P., Pach, R., Kulig, J., Role of abdominal ultrasonography in clinical staging of pancreatic carcinoma: a tertiary center experience, Polskie Archiwum Medycyny WewnetrznejPol Arch Med Wewn, 124, 225-32, 2014	Substantial discrepancies between results reported in text and tables.
Laghi, A., Iannaccone, R., Catalano, C., Carbone, I., Sansoni, I., Mangiapane, F., Passariello, R., Multislice spiral computed tomography in diagnosis and staging of pancreatic carcinoma: preliminary experience, Digestive & Liver DiseaseDig Liver Dis, 34, 732-8, 2002	Retrospective study; <50 patients
Lavonius, M. I., Laine, S., Salo, S., Sonninen, P., Ovaska, J., Role of laparoscopy and laparoscopic ultrasound in staging of pancreatic tumours, Annales Chirurgiae et GynaecologiaeAnn Chir Gynaecol, 90, 252-5, 2001	<50 participants
Levy, J., Tahiri, M., Vanounou, T., Maimon, G., Bergman, S., Diagnostic Laparoscopy with Ultrasound Still Has a Role in the Staging of Pancreatic Cancer: A Systematic Review of the Literature, HPB SurgeryHPB Surg, 2016, 8092109, 2016	Meta-analysis. Checked, included Doucas 2007, Frstrup 2006, Kwon 2002, Schachter 2000 .
Li, J. H., He, R., Li, Y. M., Cao, G., Ma, Q. Y., Yang,	Meta-analysis. Checked, included Tellez-

Study	Reason for Exclusion
W. B., Endoscopic ultrasonography for tumor node staging and vascular invasion in pancreatic cancer: a meta-analysis, <i>Digestive Surgery</i> Dig Surg, 31, 297-305, 2014	Avila 2012
Liao, S. R., Dai, Y., Huo, L., Yan, K., Zhang, L., Zhang, H., Gao, W., Chen, M. H., Transabdominal ultrasonography in preoperative staging of gastric cancer, <i>World Journal of Gastroenterology</i> , 10, 3399-3404, 2004	Gastric cancer only, not pancreatic.
Liu, R. C., Traverso, L. W., Laparoscopic staging should be used routinely for locally extensive cancer of the pancreatic head, <i>Journal of Gastrointestinal Surgery</i> J Gastrointest Surg, 8, 923-4, 2004	Narrative review article.
Lytras, D., Connor, S., Bosonnet, L., Jayan, R., Evans, J., Hughes, M., Garvey, C. J., Ghaneh, P., Sutton, R., Vinjamuri, S., Neoptolemos, J. P., Positron emission tomography does not add to computed tomography for the diagnosis and staging of pancreatic cancer, <i>Digestive Surgery</i> Dig Surg, 22, 55-61; discussion 62, 2005	no sufficient data to calculate 2x2 table
Maemura, K., Shinchu, H., Mataka, Y., Kurahara, H., Hayashi, T., Kuwahata, T., Sakoda, M., Ueno, S., Takao, S., Natsugoe, S., Advanced staging laparoscopy using single-incision approach for unresectable pancreatic cancer, <i>Surgical Laparoscopy, Endoscopy & Percutaneous Techniques</i> Surg Laparosc Endosc Percutan Tech, 21, e301-5, 2011	No data on sensitivity and specificity.
Maire, F., Sauvanet, A., Trivin, F., Hammel, P., O'Toole, D., Palazzo, L., Vilgrain, V., Belghiti, J., Ruszniewski, P., Levy, P., Staging of pancreatic head adenocarcinoma with spiral CT and endoscopic ultrasonography: an indirect evaluation of the usefulness of laparoscopy, <i>Pancreatology</i> , 4, 436-40, 2004	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Menack, M. J., Spitz, J. D., Arregui, M. E., Staging of pancreatic and ampullary cancers for resectability using laparoscopy with laparoscopic ultrasound, <i>Surgical endoscopy</i> , 15, 1129-34, 2001	Retrospective study; <50 patients
Morak, M. J., Hermans, J. J., Smeenk, H. G., Renders, W. M., Nuyttens, J. J., Kazemier, G., van Eijck, C. H., Staging for locally advanced pancreatic cancer, <i>European Journal of Surgical Oncology</i> , 35, 963-8, 2009	No overall sensitivity and specificity data, only a comparison of conclusions from secondary centre and tertiary referral centre when interpreting scan.
Morana, G., Cancian, L., Pozzi Mucelli, R., Cugini, C., Staging cancer of the pancreas, <i>Cancer Imaging</i> Cancer Imaging, 10 Spec no A, S137-41, 2010	Narrative review article.
Morganti, A. G., Brizi, M. G., Macchia, G., Sallustio, G., Costamagna, G., Alfieri, S., Mattiucci, G. C., Valentini, V., Natale, L., Deodato, F., Mutignani, M., Doglietto, G. B., Cellini, N., The prognostic effect of clinical staging in pancreatic adenocarcinoma, <i>Annals of surgical oncology</i> , 12, 145-51, 2005	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Muntean, V., Oniu, T., Lungoci, C., Fabian, O., Munteanu, D., Molnar, G., Bintintan, V., Staging laparoscopy in digestive cancers, <i>Journal of Gastrointestinal and Liver Diseases</i> , 18, 461-467,	<66% PC patients at preoperative diagnosis

Study	Reason for Exclusion
2009	
Nawaz, H., Fan, C. Y., Kloke, J., Khalid, A., McGrath, K., Landsittel, D., Papachristou, G. I., Performance characteristics of endoscopic ultrasound in the staging of pancreatic cancer: a meta-analysis, Jop: Journal of the Pancreas [Electronic Resource]Jop, 14, 484-97, 2013	Meta-analysis. Checked, included Yusoff 2003.
Nentwich, M. F., Menzel, K., Reeh, M., Uzunoglu, F. G., Ghadban, T., Bachmann, K., Schrader, J., Bockhorn, M., Izbicki, J. R., Perez, D., Blood fibrinogen levels discriminate low- and high-risk intraductal papillary mucinous neoplasms (IPMNs), European Journal of Surgical OncologyEur J Surg Oncol, 43, 758-762, 2017	Retrospective study
Neoptolemos, J. P., Is endoscopic ultrasonography superior to multidetector CT for assessing pancreatic cancer?, Nature Clinical Practice OncologyNat Clin Pract Oncol, 2, 78-9, 2005	Commentary article discussing De Witt 2004.
Nieveen van Dijkum, E. J., Romijn, M. G., Terwee, C. B., de Wit, L. T., van der Meulen, J. H., Lameris, H. S., Rauws, E. A., Obertop, H., van Eyck, C. H., Bossuyt, P. M., Gouma, D. J., Laparoscopic staging and subsequent palliation in patients with peripancreatic carcinoma, Annals of surgery, 237, 66-73, 2003	Mixed population of patients with tumour affecting the common bile duct. No data on what proportion of population had pancreatic cancer.
Nishiyama, Y., Yamamoto, Y., Yokoe, K., Monden, T., Sasakawa, Y., Tsutsui, K., Satoh, K., Ohkawa, M., Contribution of whole body FDG-PET to the detection of distant metastasis in pancreatic cancer, Annals of Nuclear MedicineAnn Nucl Med, 19, 491-497, 2005	<50 participants
Noh, K. W., Wallace, M. B., Endoscopic ultrasound-guided fine-needle aspiration in the diagnosis and staging of pancreatic adenocarcinoma, Medgenmed [Computer File]: Medscape General MedicineMedGenMed, 7, 15, 2005	Narrative review article.
Nordback, I., Saaristo, R., Piironen, A., Sand, J., Chest computed tomography in the staging of pancreatic and periampullary carcinoma, Scandinavian Journal of GastroenterologyScand J Gastroenterol, 39, 81-6, 2004	No data on diagnostic accuracy outcomes or resectability.
Oda, Y., Aishima, S., Shindo, K., Fujino, M., Mizuuchi, Y., Hattori, M., Miyazaki, T., Tanaka, M., Oda, Y., SLC2A1/GLUT1 expression in mural nodules of intraductal papillary mucinous neoplasm of the pancreas, Human PathologyHum Pathol, 12, 12, 2017	No relevant test
Pak, L. M., Coit, D. G., Eaton, A. A., Allen, P. J., D'Angelica, M. I., DeMatteo, R. P., Jarnagin, W. R., Strong, V. E., Kingham, T. P., Percutaneous Peritoneal Lavage for the Rapid Staging of Gastric and Pancreatic Cancer, Annals of Surgical OncologyAnn Surg Oncol, 05, 05, 2017	Diagnostic accuracy results reported for gastric and pancreatic groups together. No separate data on participants with pancreatic cancer.
Paul, N., Donahue, T. R., Wong, J. L., Tomlinson, J. S., Hines, O. J., Reber, H. A., Farrell, J. J., Evolving role of endoscopic ultrasound before surgery after medical down-staging of pancreaticobiliary cancers, Gastrointestinal Endoscopy, 75, AB196, 2012	Conference abstract.
Pisters, P. W., Lee, J. E., Vauthey, J. N., Charnsangavej, C., Evans, D. B., Laparoscopy in the	Narrative review article.

Study	Reason for Exclusion
staging of pancreatic cancer, British Journal of Surgery Br J Surg, 88, 325-37, 2001	
Prasad, P., Schmulewitz, N., Patel, A., Varadarajulu, S., Wildi, S. M., Roberts, S., Tutuian, R., King, P., Hawes, R. H., Hoffman, B. J., Wallace, M. B., Detection of occult liver metastases during EUS for staging of malignancies, Gastrointestinal endoscopy, 59, 49-53, 2004	Participants had a variety of malignancies. No separate data are presented for pancreatic cancer specifically.
Prokesch, R. W., Chow, L. C., Beaulieu, C. F., Nino-Murcia, M., Mindelzun, R. E., Bammer, R., Huang, J., Jeffrey, R. B., Jr., Local staging of pancreatic carcinoma with multi-detector row CT: use of curved planar reformations initial experience, Radiology Radiology, 225, 759-65, 2002	<50 participants
Queneau, P. E., Sauve, G., Koch, S., Thibault, P., Cleau, D., Heyd, B., Manton, G., Carayon, P., The impact on clinical practice of endoscopic ultrasonography used for the diagnosis and staging of pancreatic adenocarcinoma, Jop: Journal of the Pancreas [Electronic Resource] Jop, 2, 98-104, 2001	Mixed prospective and retrospective study; prospective study <50 patients
Ramsay, D., Marshall, M., Song, S., Zimmerman, M., Edmunds, S., Yusoff, I., Cullingford, G., Fletcher, D., Mendelson, R., Identification and staging of pancreatic tumours using computed tomography, endoscopic ultrasound and mangafodipir trisodium-enhanced magnetic resonance imaging, Australasian Radiology Australas Radiol, 48, 154-61, 2004	<50 participants
Romijn, M. G., Stoker, J., van Eijck, C. H., van Muiswinkel, J. M., Torres, C. G., Lameris, J. S., MRI with mangafodipir trisodium in the detection and staging of pancreatic cancer, Journal of Magnetic Resonance Imaging J Magn Reson Imaging, 12, 261-8, 2000	<50 participants
Saftoiu, A., Vilman, P., Role of endoscopic ultrasound in the diagnosis and staging of pancreatic cancer, Journal of Clinical Ultrasound, 37, 1-17, 2009	Narrative review article.
Schima, W., Fugger, R., Schober, E., Oettl, C., Wamser, P., Grabenwoger, F., Ryan, J. M., Novacek, G., Diagnosis and staging of pancreatic cancer: comparison of mangafodipir trisodium-enhanced MR imaging and contrast-enhanced helical hydro-CT, AJR. American Journal of Roentgenology AJR Am J Roentgenol, 179, 717-24, 2002	<50 participants
Schneider, A. R., Adamek, H. E., Layer, G., Riemann, J. F., Arnold, J. C., Staging of abdominal metastases in pancreatic carcinoma by diagnostic laparoscopy and magnetic resonance imaging, Zeitschrift fur Gastroenterologie Z Gastroenterol, 41, 697-702, 2003	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Schnelldorfer, T., Gagnon, A. I., Birkett, R. T., Reynolds, G., Murphy, K. M., Jenkins, R. L., Staging laparoscopy in pancreatic cancer: a potential role for advanced laparoscopic techniques, Journal of the American College of Surgeons, 218, 1201-6, 2014	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Sheng, J., Jahromi, A. H., Takalkar, A., Chu, Q., D'Agostino, H., Zibari, G. B., Shokouh-Amiri, H., The role of positron emission tomography in the diagnosis and staging of pancreatic lesions, HPB, 14, 70, 2012	Conference abstract.

Study	Reason for Exclusion
Smith, S. L., Basu, A., Rae, D. M., Sinclair, M., Preoperative staging accuracy of multidetector computed tomography in pancreatic head adenocarcinoma, <i>Pancreas</i> , 34, 180-4, 2007	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Somers, I., Bipat, S., Contrast-enhanced CT in determining resectability in patients with pancreatic carcinoma: a meta-analysis of the positive predictive values of CT, <i>European RadiologyEur Radiol</i> , 16, 16, 2017	This MA includes 29 studies, of which most part were published before of 2000. Therefore references have been hand-searched and 2 trials from this review have been included
Tamm, E. P., Loyer, E. M., Faria, S., Raut, C. P., Evans, D. B., Wolff, R. A., Crane, C. H., Dubrow, R. A., Charnsangavej, C., Staging of pancreatic cancer with multidetector CT in the setting of preoperative chemoradiation therapy. [Erratum: <i>Abdominal Imaging</i> (2014) 39(1): 236], <i>Abdominal ImagingAbdom Imaging</i> , 31, 568-74, 2006	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Thomson, B. N., Parks, R. W., Redhead, D. N., Welsh, F. K., Madhavan, K. K., Wigmore, S. J., Garden, O. J., Refining the role of laparoscopy and laparoscopic ultrasound in the staging of presumed pancreatic head and ampullary tumours, <i>British journal of cancer</i> , 94, 213-7, 2006	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Treadwell, J. R., Zafar, H. M., Mitchell, M. D., Tipton, K., Teitelbaum, U., Jue, J., Imaging Tests for the Diagnosis and Staging of Pancreatic Adenocarcinoma: A Meta-Analysis, <i>Pancreas</i> , 45, 789-95, 2016	This MA includes 4 studies, of which 2 were published before of 2000. Therefore references have been hand-searched and 2 trials from this review have been included
Valinas, R., Barrier, A., Montravers, F., Houry, S., Talbot, J. N., Huguier, M., [18 F-fluorodeoxyglucose positron emission tomography for characterization and initial staging of pancreatic tumors], <i>Gastroenterologie Clinique et BiologiqueGastroenterol Clin Biol</i> , 26, 888-92, 2002	<50 participants
Van Dam, J., Endoscopic ultrasound staging of pancreatic cancer, <i>Digestive Endoscopy</i> , 16, S165-S167, 2004	Non-systematic review article.
Velasco, J. M., Rossi, H., Hieken, T. J., Fernandez, M., Laparoscopic ultrasound enhances diagnostic laparoscopy in the staging of intra-abdominal neoplasms, <i>American SurgeonAm Surg</i> , 66, 407-11, 2000	<66% PC at preoperative diagnosis
Vollmer, C. M., Drebin, J. A., Middleton, W. D., Teefey, S. A., Linehan, D. C., Soper, N. J., Eagon, C. J., Strasberg, S. M., Utility of staging laparoscopy in subsets of peripancreatic and biliary malignancies, <i>Annals of surgery</i> , 235, 1-7, 2002	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Wang, X. Y., Yang, F., Jin, C., Guan, Y. H., Zhang, H. W., Fu, D. L., The value of 18F-FDG positron emission tomography/computed tomography on the pre-operative staging and the management of patients with pancreatic carcinoma, <i>Hepato-gastroenterology</i> , 61, 2102-9, 2014	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Wang, Z., Chen, J. Q., Liu, J. L., Qin, X. G., Huang, Y., FDG-PET in diagnosis, staging and prognosis of pancreatic carcinoma: a meta-analysis, <i>World Journal of Gastroenterology</i> , 19, 4808-17, 2013	Meta-analysis. No additional relevant prospective studies

Study	Reason for Exclusion
Wiersema, M. J., Accuracy of endoscopic ultrasound in diagnosing and staging pancreatic carcinoma, <i>Pancreatology</i> , 1, 625-32, 2001	Narrative review article.
Yim, H. B., Yap, W. M., Chong, P. Y., Clinical usefulness of endoscopic ultrasonography with or without fine needle aspiration in the diagnosis and staging of pancreatic carcinoma, <i>Annals of the Academy of Medicine Singapore</i> , 34, 124-129, 2005	Case series (n = 5), without sensitivity/specificity data.
Yoshida, T., Matsumoto, T., Morii, Y., Ishio, T., Kitano, S., Yamada, Y., Mori, H., Staging with helical computed tomography and laparoscopy in pancreatic head cancer, <i>Hepato-gastroenterology</i> , 49, 1428-31, 2002	No diagnostic accuracy measures reported.
Yusoff, I. F., Mendelson, R. M., Edmunds, S. E., Ramsay, D., Cullingford, G. L., Fletcher, D. R., Zimmerman, A. M., Preoperative assessment of pancreatic malignancy using endoscopic ultrasound, <i>Abdominal Imaging</i> , 28, 556-62, 2003	<50 patients
Zhang, L., Zhang, Z. Y., Ni, J. M., Li, B., Chen, F. M., Jiang, C. J., Hu, C. H., Prediction of Vascular Invasion Using a 3-Point Scale Computed Tomography Grading System in Pancreatic Ductal Adenocarcinoma: Correlation With Surgery, <i>Journal of Computer Assisted Tomography</i> <i>J Comput Assist Tomogr</i> , 29, 29, 2016	This study fulfilled the inclusion criteria (as regard to the intervention, the reference standard, and the outcomes) but was excluded because based upon retrospectively collected data
Zhao, Z. W., He, J. Y., Tan, G., Wang, H. J., Li, K. J., Laparoscopy and laparoscopic ultrasonography in judging the resectability of pancreatic head cancer, <i>Hepatobiliary & Pancreatic Diseases International</i> <i>Hepatobiliary Pancreat Dis Int</i> , 2, 609-11, 2003	<50 patients

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G.7.3 Psychological support needs

Study	Reason for Exclusion
Acaster, S., Gallop, K., Debusk, K., Meldahl, M. L., Naegeli, A., The impact of muscle wasting or weakness in advanced pancreatic cancer patients: Development of a conceptual model, <i>Value in Health</i> , 15 (4), A226, 2012	Abstract
Adams, D. B., Life, liberty, and the pursuit of quality-adjusted life-years after pancreatic cancer surgery, <i>World Journal of Surgery</i> , 35, 473-4, 2011	Economics
Axilbund, J. E., Brune, K. A., Canto, M. I., Brehon, B. C., Wroblewski, L. D., Griffin, C. A., Patient perspective on the value of genetic counselling for familial pancreas cancer, <i>Hereditary Cancer in Clinical Practice</i> , 3, 115-22, 2005	Does not report on patient need for information/support
Back, A. L., Keys to supportive care in pancreatic cancer: Early palliative care, improved communication, <i>Oncology</i> , 27, 2013	Commentary
Bagic, Z., Dobrila-Dintinjana, R., Djipalo, I., Dintinjana, M., Stimac, D., Nutritional and pharmacologic support in patients with pancreatic carcinoma; Our results, <i>Annals of oncology</i> , 17, 58-58, 2006	Abstract

Study	Reason for Exclusion
Beesley, V. L., Janda, M., Wockner, L. F., O'Rourke, P., Gooden, H., Goldstein, D., Merrett, N. D., Wyld, D. K., Neale, R. E., Pancreatic cancer patient's moderate or high unmet supportive care needs over time and risk factors of future unmet needs, <i>Asia-Pacific Journal of Clinical Oncology</i> , 9, 105, 2013	Abstract
Beesley, V., Janda, M., Wyld, D., Gooden, H., Neale, R., Pancreatic cancer patient's supportive care needs and corresponding use of allied health services, <i>Asia-Pacific Journal of Clinical Oncology</i> , 6, 233, 2010	Abstract
Boyd, C. A., Benarroch-Gampel, J., Sheffield, K. M., Han, Y., Kuo, Y. F., Riall, T. S., The effect of depression on stage at diagnosis, treatment, and survival in pancreatic adenocarcinoma, <i>Surgery</i> , 152, 403-13, 2012	Comparison/Outcomes not relevant to PICO. Compares patients with depression with patients with no depression before diagnosis.
Brown, D., Boyd, A., Henrickson, C., Hampton, J., Almani, F., Ben-Josef, E., Zalupski, M., Simeone, D., Taylor, J., Armitage, R., Riba, M., Prevalence of depression, sleep-related disturbances, and anxiety and their effect on quality of life in patients with adenocarcinoma of the pancreas, <i>Journal of clinical oncology</i> , 1), e15678, 2009	Abstract
Castillo-Angeles, M., Storino, A., Watkins, A. A., Vargas, C. R., Tseng, J. F., Callery, M. P., Moser, A. J., Kent, T. S., English and Spanish language readability of online patient resources for pancreatic cancer, <i>HPB</i> , 17, 56, 2015	Abstract
Chapple, A., Evans, J., McPherson, A., Payne, S., Patients with pancreatic cancer and relatives talk about preferred place of death and what influenced their preferences: a qualitative study, <i>BMJ supportive & palliative care</i> , 1, 291-5, 2011	Does not report on patient need for information/support
Cooper, C., Burden, S. T., Molassiotis, A., An explorative study of the views and experiences of food and weight loss in patients with operable pancreatic cancer perioperatively and following surgical intervention, <i>Supportive Care in Cancer</i> , 23, 1025-33, 2015	Does not report on patient need for information/support
Coulehan, Jack, "They wouldn't pay attention": Death without dignity, <i>American Journal of Hospice & Palliative Medicine</i> , 22, 339-343, 2005	Does not report on patient need for information/support
Danielsson, K., Ansari, D., Andersson, R., Personalizing pancreatic cancer medicine: What are the challenges?, <i>Personalized Medicine</i> , 10, 45-59, 2013	Review Article
Donegan, M., Analysis of practice metrics and provider satisfaction in an outpatient palliative Care clinic with an advanced practice nurse model, <i>Journal of palliative medicine</i> , 16 (4), A9, 2013	Abstract
el-Kamar, F. G., Grossbard, M. L., Kozuch, P. S., Metastatic pancreatic cancer: emerging strategies in chemotherapy and palliative care, <i>Oncologist</i> , 8, 18-34, 2003	Review Article
Ellison, N. M., Chevlen, E., Still, C. D., Dubagunta, S., Supportive care for patients with pancreatic adenocarcinoma: symptom control and nutrition, <i>Hematology - Oncology Clinics of North America</i> <i>Hematol Oncol Clin North Am</i> , 16, 105-21, 2002	Review Article
Engebretson, A., Matrisian, L., Thompson, C., Patient and caregiver awareness of pancreatic cancer treatments and clinical trials, <i>Journal of Gastrointestinal Oncology</i> , 7, 228-33, 2016	Does not report on patient need for information/support

Study	Reason for Exclusion
Engebretson, A., Matrisian, L., Thompson, C., Pancreatic cancer: Patient and caregiver perceptions on diagnosis, psychological impact, and importance of support, <i>Pancreatology</i> , 15, 701-7, 2015	Outcomes related to clinical trial involvement rather than improving access to information/support
Epstein, A. S., Shuk, E., Gary, K., O'Reilly, E. M., Volandes, A. E., Advanced pancreas and hepatobiliary (PHB) cancer patients' impressions regarding cardiopulmonary resuscitation (CPR), <i>Journal of Clinical Oncology. Conference</i> , 31, 2013	Abstract
Epstein, A. S., Volandes, A. E., Chen, L. Y., Gary, K. A., Li, Y., Agre, P., Levin, T. T., Reidy, D. L., Meng, R. D., Segal, N. H., Yu, K. H., Abou-Alfa, G. K., Janjigian, Y. Y., Kelsen, D. P., O'Reilly, E. M., A randomized controlled trial of a cardiopulmonary resuscitation video in advance care planning for progressive pancreas and hepatobiliary cancer patients, <i>Journal of palliative medicine</i> , 16, 623-31, 2013	Does not report on patient need for information/support
Fitzsimmons, D., George, S., Payne, S., Johnson, C. D., Differences in perception of quality of life issues between health professionals and patients with pancreatic cancer, <i>Psycho-Oncology</i> , 8, 135-43, 1999	Review Article
Fitzsimmons, D., Johnson, C. D., Quality of life after treatment of pancreatic cancer, <i>Langenbecks Archives of Surgery</i> , 383, 145-151, 1998	Does not report on patient need for information/support
Goggins, M., Lietman, A., Miller, R. E., Yeo, C. J., Jaffee, E., Coleman, J., O'Reilly, S., Cullen, B., Cameron, J. L., Kern, S. E., Hruban, R. H., Use and benefits of a Web site for pancreatic cancer, <i>Jama</i> , 280, 1309-10, 1998	Letter
Gooden, H., Batt, G., White, K., Biankin, A., Smith, R., Communicating effectively: The key to promoting quality support and understanding for people affected by pancreatic cancer, <i>Supportive Care in Cancer</i> , 18, S183, 2010	Abstract
Gooden, H., White, K., Pancreatic cancer and supportive care-faced with death, it is the small things that positively impact on quality of life, <i>Asia-Pacific Journal of Clinical Oncology</i> , 8, 346, 2012	Abstract
Goodnight, J. E., Surgeon-patient communication in the treatment of pancreatic cancer - Invited commentary, <i>Archives of Surgery</i> , 133, 966-966, 1998	Abstract
Grant, M., Conversations with strangers: The needs of those accessing an online palliative care nurse practitioner on a pancreatic cancer website, <i>Journal of pain and symptom management</i> , 43 (2), 451-452, 2012	Abstract
Gupta, D., Markman, M., Rodeghier, M., Lis, C. G., The relationship between patient satisfaction with service quality and survival in pancreatic cancer, <i>Patient preference & adherence</i> , 6, 765-72, 2012	Does not report on patient need for information/support
Gusani, N. J., Coker, L., Katz, M. H., Reidy-Lagunes, D., Bloomston, P., #PancSM initial experience with creation of a twitter-based monthly online pancreatic cancer chat community, <i>HPB</i> , 17, 81, 2015	Abstract
Heras, R., Kritikos, K., Hatzopoulos, A., Karagiannis, S., Physical and social impact on patients suffering from pancreatic cancer: Comparative study based on the psychological support they receive, <i>Annals of oncology</i> , 18, VII114-VII114, 2007	Abstract
Jefford, M., Jennens, R., Speer, T., Thursfield, V., Different professionals' knowledge and perceptions of the management	Does not report on patient need for information/support

Study	Reason for Exclusion
of people with pancreatic cancer, <i>Asia-Pacific Journal of Clinical Oncology</i> , 3, 44-51, 2007	
Jia, L., Jiang, S. M., Shang, Y. Y., Huang, Y. X., Li, Y. J., Xie, D. R., Huang, K. H., Zhi, F. C., Investigation of the incidence of pancreatic cancer-related depression and its relationship with the quality of life of patients, <i>Digestion</i> , 82, 4-9, 2010	Does not report on patient need for information/support
Kelsen, D. P., Portenoy, R. K., Thaler, H. T., Niedzwiecki, D., Passik, S. D., Tao, Y., Banks, W., Brennan, M. F., Foley, K. M., Pain and depression in patients with newly diagnosed pancreas cancer, <i>Journal of clinical oncology</i> , 13, 748-755, 1995	Does not report on patient need for information/support
Kennedy, V. N., Supportive care of the patient with pancreatic cancer: the role of the oncology social worker, <i>Oncology (Williston Park)</i> , 10, 35-7, 1996	Review Article
Labori, K. J., Verbeke, C. S., Gladhaug, I. P., Information needs among patients and a surveillance strategy after surgery for pancreatic and periampullary cancer, <i>HPB</i> , 17, 659, 2015	Abstract
Leigh, S., Survivorship and pancreatic cancer: the role of advocacy, <i>Oncology (Williston Park)</i> , 10, 38-9, 1996	Review Article
Lis, C. G., Gupta, D., Grutsch, J. F., Patient satisfaction with quality of life as a predictor of survival in pancreatic cancer, <i>International Journal of Gastrointestinal Cancer</i> , 37, 35-44, 2006	Does not report on patient need for information/support
MacIntyre, J., Metastatic pancreatic cancer: what can nurses do?, <i>Clinical Journal of Oncology Nursing</i> , 15, 424-8, 2011	Review Article
Nolan, M. T., Hodgins, M. B., Olsen, S. J., Coleman, J., Sauter, P. K., Baker, D., Stanfield, C., Emerling, A., Hruban, R. H., Spiritual issues of family members in a pancreatic cancer chat room, <i>Oncology Nursing Forum</i> , 33, 239-44, 2006	Does not report on patient need for information/support
O'Driscoll, D., O'Rourke, M., Fitzgerald, M., O'Keeffe, L., Conlon, K., Eatock, M., Murray, L., Sharp, L., Factors associated with caregiver burden among primary caregivers of individuals with pancreatic cancer: Results from the all-ireland pancam study contact, <i>Pancreatology</i> , 11 (3), 305, 2011	Abstract
Passik, S. D., Supportive care of the patient with pancreatic cancer: role of the psycho-oncologist, <i>Oncology (Williston Park)</i> , 10, 33-4, 1996	Review Article
Philip, E., Clark, K., Loscalzo, M., Trask, P., Zabora, J., Psychological distress in patients with pancreatic cancer - An understudied group, <i>Psycho-Oncology</i> , 19, S92, 2010	Abstract
Schildmann, J., Ritter, P., Salloch, S., Beiderwellen, P., Vollmann, J., Treatment decision making in pancreatic cancer. A qualitative interview study on the views and preferences of patients, <i>Onkologie</i> , 35, 225, 2012	Abstract
Sharma, R. K., Hughes, M. T., Nolan, M. T., Tudor, C., Kub, J., Terry, P. B., Sulmasy, D. P., Family understanding of seriously-ill patient preferences for family involvement in healthcare decision making, <i>Journal of General Internal Medicine</i> , 26, 881-6, 2011	Does not report on patient need for information/support
Siddiqui, U. D., Rossi, F., Padda, M. S., Rosenthal, L. S., Aslanian, H. R., Patient preferences after endoscopic ultrasound with fine needle aspiration (EUS-FNA) diagnosis of pancreas cancer: rapid communication valued over long-term relationships, <i>Pancreas</i> , 40, 680-1, 2011	Does not report on patient need for information/support
Storino, A., Castillo-Angeles, M., Watkins, A. A., Vargas, C., Mancias, J. D., Bullock, A., Demirjian, A., Moser, A. J., Kent, T.	Abstract

Study	Reason for Exclusion
S., Assessing the Accuracy and Readability of Online Health Information for Patients With Pancreatic Cancer, JAMA Surgery, 4, 4, 2016	
Storino, A., Castillo-Angeles, M., Watkins, A. A., Vargas, C., Mancias, J., Bullock, A., Demirjian, A., Moser, A. J., Kent, T. S., Readability and accuracy of online patient materials for pancreatic cancer by treatment modality and website affiliation, HPB, 17, 55-56, 2015	Abstract
Ulander, K., Grahn, G., Sundahl, G., Jeppsson, B., Needs and care of patients undergoing subtotal pancreatectomy for cancer, Cancer nursing, 14, 27-34, 1991	Does not report on patient need for information/support
Underhill, M., Berry, D., Dalton, E., Schienda, J., Syngal, S., Patient experiences living with pancreatic cancer risk, Hereditary Cancer in Clinical Practice, 13, 13, 2015	Does not report on patient need for information/support
Vandersluis, M. S., Observations of a 5-year survivor of metastatic pancreas cancer on the current state of treatment, Journal of Clinical Oncology. Conference, 32, 2014	Abstract
Verma, D., Kwok, K., Wu, B. U., Patient anxiety, awareness, and preferences in management of pancreatic cysts, Gastroenterology, 1), S526-S527, 2015	Abstract
Wijnhoven, M. N., Terpstra, W. E., van Rossem, R., Haazer, C., Gunnink-Boonstra, N., Sonke, G. S., Buiting, H. M., Bereaved relatives' experiences during the incurable phase of cancer: a qualitative interview study, BMJ Open, 5, e009009, 2015	Does not report on patient need for information/support
Ziebland, S., Chapple, A., Evans, J., Barriers to shared decisions in the most serious of cancers: a qualitative study of patients with pancreatic cancer treated in the UK, Health expectations, 18, 3302-12, 2015	Breast Cancer

G.81 Pain

Study	Reason for Exclusion
Staats, P. S, Hekmat, H, Sauter, P, Lillemoe, K, The effects of alcohol celiac plexus block, pain, and mood on longevity in patients with unresectable PC: a double-blind, randomised, placebo-controlled study, Pain MedicinePain Med, 2, 28-34, 2001	Additional analysis on a pre-existing RCT (Lillimoe 1993)with no outcomes of interest (correlation between mood and pain/longevity)
Okuyama, M, Shibata, T, Morita, T, Kitada, M, Tukahara, Y, Fukushima, Y, Ikeda, K, Fuzita, J, Shimano, T, A comparison of intraoperative celiac plexus block with pharmacological therapy as a treatment for pain of unresectable PC, Journal of Hepato-Biliary-Pancreatic SurgeryJ Hepatobiliary Pancreat Surg, 9, 372-5, 2002	Comparative study design: No RCT
Charlton, J. E, Relief of the pain of unresectable carcinoma of pancreas by chemical splanchnicectomy during laparotomy, Annals of the Royal College of Surgeons of EnglandAnn R Coll Surg Engl, 67, 136-7, 1985	Inappropriate study design (conference abstract)
Mercadante, S, Klepstad, P, Kurita, G. P, Sjogren, P, Giarratano, A, European Palliative Care Research, Collaborative, Sympathetic blocks for visceral cancer pain management: A systematic review and EAPC recommendations, Critical Reviews in Oncology-HematologyCrit Rev Oncol	Inappropriate study design (Narrative review very interesting as background framework: checked for references)

Study	Reason for Exclusion
Hematol, 96, 577-83, 2015	
Fujii-Lau, L. L, Bamlet, W. R, Eldrige, J. S, Chari, S. T, Gleeson, F. C, Abu Dayyeh, B. K, Clain, J. E, Pearson, R. K, Petersen, B. T, Rajan, E, Topazian, M. D, Vege, S. S, Wang, K. K, Wiersema, M. J, Levy, M. J, Impact of celiac neurolysis on survival in patients with PC, Gastrointestinal endoscopy, 82, 46-56.e2, 2015	Inappropriate study design (Single centre retrospective case-control study)
Niu, L, Wang, Y, Yao, F, Wei, C, Chen, Y, Zhang, L, Chen, J, Li, J, Zuo, J, Xu, K, Alleviating visceral cancer pain in patients with PC using cryoablation and celiac plexus block, CryobiologyCryobiology, 66, 105-11, 2013	Inappropriate study design (Single centre retrospective observational study)
Hanna, M, Peat, S. J, Woodham, M. J, Latham, J, Gouliaris, A, Di Vadi, P, THE USE OF CELIAC PLEXUS BLOCKADE IN PATIENTS WITH CHRONIC PAIN, Palliative Medicine, 4, 11-16, 1990	Inappropriate study design (Single centre retrospective study)
Kaufman, M, Singh, G, Das, S, Concha-Parra, R, Erber, J, Micames, C, Gress, F, Efficacy of endoscopic ultrasound-guided celiac plexus block and celiac plexus neurolysis for managing abdominal pain associated with chronic pancreatitis and PC, Journal of Clinical Gastroenterology, 44, 127-34, 2010	Inappropriate study design: meta-analysis of 3 observational studies, the intervention (EUS-CPN) is covered from higher level scientific evidence - references checked
Puli, S. R, Reddy, J. B, Bechtold, M. L, Antillon, M. R, Brugge, W. R, EUS-guided celiac plexus neurolysis for pain due to chronic pancreatitis or PC pain: a meta-analysis and systematic review, Digestive Diseases & SciencesDig Dis Sci, 54, 2330-7, 2009	Inappropriate study design: narrative review including both abstracts and full-articles (4 and 4) : checked for references
Gunaratnam, N. T, Sarma, A. V, Norton, I. D, Wiersema, M. J, A prospective study of EUS-guided celiac plexus neurolysis for PC pain, Gastrointestinal endoscopy, 54, 316-24, 2001	Inappropriate study design: No experimental deign
Rykowski, J. J, Hilgier, M, Efficacy of neurolytic celiac plexus block in varying locations of PC: influence on pain relief, Anesthesiology, 92, 347-54, 2000	Inappropriate study design: No experimental deign
Sahai, A. V, Lemelin, V, Lam, E, Paquin, S. C, Central vs. bilateral endoscopic ultrasound-guided celiac plexus block or neurolysis: A comparative study of short-term effectiveness, American Journal of Gastroenterology, 104, 326-329, 2009	Inappropriate study design: No experimental deign
Smigielski, J, Piskorz, L, Wawrzycki, M, Kutwin, L, Misiak, P, Brocki, M, Assessment of quality of life in patients with non-operated PC after videothoroscopic splanchnicectomy, Wideochirurgia i Inne Techniki MaloinwazyjneWideochir, 6, 132-7, 2011	Inappropriate study design: No experimental deign
van Geenen, R. C, Keyzer-Dekker, C. M, van Tienhoven, G, Obertop, H, Gouma, D. J, Pain management of patients with unresectable peripancreatic carcinoma, World Journal of SurgeryWorld J Surg, 26, 715-20, 2002	Inappropriate study design: No experimental deign
Yuen, T. S. T, Ng, K. F. J, Tsui, S. L, Neurolytic celiac plexus block for visceral abdominal	Inappropriate study design: No experimental

Study	Reason for Exclusion
malignancy: Is prior diagnostic block warranted?, <i>Anaesthesia and Intensive Care</i> , 30, 442-448, 2002	deign
Doi, S, Yasuda, I, Kawakami, H, Hayashi, T, Hisai, H, Irisawa, A, Mukai, T, Katanuma, A, Kubota, K, Ohnishi, T, Ryozaawa, S, Hara, K, Itoi, T, Hanada, K, Yamao, K, Endoscopic ultrasound-guided celiac ganglia neurolysis vs. celiac plexus neurolysis: a randomised multicenter trial, <i>Endoscopy</i> , 45, 362-9, 2013	Inappropriate study population (abdominal cancer: pancreatic and periampullary adenocarcinoma - 70 and 30 %)
Bhatnagar, S, Joshi, S, Rana, S. P, Mishra, S, Garg, R, Ahmed, S. M, Bedside ultrasound-guided celiac plexus neurolysis in upper abdominal cancer patients: a randomised, prospective study for comparison of percutaneous bilateral paramedian vs. unilateral paramedian needle-insertion technique, <i>Pain Practice</i> <i>Pain pract</i> , 14, E63-8, 2014	Inappropriate study population (abdominal cancers: pancreas or Gall Bladder malignancy - 70 and 30 %)
Lavu, H, Lengel, H. B, Sell, N. M, Baiocco, J. A, Kennedy, E. P, Yeo, T. P, Burrell, S. A, Winter, J. M, Hegarty, S, Leiby, B. E, Yeo, C. J, A prospective, randomised, double-blind, placebo controlled trial on the efficacy of ethanol celiac plexus neurolysis in patients with operable pancreatic and periampullary adenocarcinoma, <i>Journal of the American College of Surgeons</i> , 220, 497-508, 2015	Inappropriate study population (pancreatic and periampullary adenocarcinoma - 70 and 30 %)
Huang, L, Tao, F, Wang, Z, Wan, H, Qu, P, Zheng, H, Combined neurolytic block of celiac and superior hypogastric plexuses for incapacitating upper abdominal cancer pain, <i>Journal of B.U.On.J</i> , 19, 826-830, 2014	Inappropriate study population (patients with abdominal or pelvic cancer)
Nagels, Werner, Pease, Nikki, Bekkering, Geertruida, Cools, Filip, Dobbels, Patrick, Celiac Plexus Neurolysis for Abdominal Cancer Pain: A Systematic Review, <i>Pain Medicine</i> <i>Pain Med</i> , 14, 1140-1163, 2013	Inappropriate study population (review including 4 PC papers out of the 5 analysed papers: checked for references)
Eisenberg, E, Carr, D. B, Chalmers, T. C, Neurolytic celiac plexus block for treatment of cancer pain: a meta-analysis.[Erratum appears in <i>Anesth Analg</i> 1995 Jul;(81)1:213], <i>Anesthesia & Analgesia</i> <i>Anesth Analg</i> , 80, 290-5, 1995	Inappropriate study population (Review including no only PC studies): checked for references
Leblanc, J. K, Rawl, S, Juan, M, Johnson, C, Kroenke, K, McHenry, L, Sherman, S, McGreevy, K, Al-Haddad, M, Dewitt, J, Endoscopic Ultrasound-Guided Celiac Plexus Neurolysis in PC: A Prospective Pilot Study of Safety Using 10mL versus 20mL Alcohol, <i>Diagnostic & Therapeutic Endoscopy</i> <i>Diagn</i> , 2013, 327036, 2013	Interesting but no a RCT
Yan, B. M, Myers, R. P, Neurolytic celiac plexus block for pain control in unresectable PC, <i>American Journal of Gastroenterology</i> , 102, 430-8, 2007	It includes 5 RCTs (Lillemoe et al. 1993; Mercadante et al. 1993; Kawamata et al. 1996; Polati et al. 1998; Wong et al. 2004)analyzed in a later CR (Arcidiacono et al. 2011)
Zhong, W, Yu, Z, Zeng, J. X, Lin, Y, Yu, T, Min, X. H, Yuan, Y. H, Chen, Q. K, Celiac plexus block for treatment of pain associated with PC: a meta-analysis, <i>Pain Practice</i> <i>Pain pract</i> , 14, 43-51, 2014	It includes an additional RCT “Johnson et al. 2009- to the included CR (Arcidiacono et al. 2011) but not for the comparison of interest, that is thoracoscopic splanchnicectomy)
de Oliveira, R, dos Reis, M. P, Prado, W. A, The	No population (44 patients with abdominal or

Study	Reason for Exclusion
effects of early or late neurolytic sympathetic plexus block on the management of abdominal or pelvic cancer pain, <i>Pain</i> , 110, 400-408, 2004	pelvic cancer – only 8 with PC)
Gress, F, Schmitt, C, Sherman, S, Ikenberry, S, Lehman, G, A prospective randomised comparison of endoscopic ultrasound- and computed tomography-guided celiac plexus block for managing chronic pancreatitis pain, <i>The American journal of gastroenterology</i> , 94, 900-5, 1999	No population: Chronic Pancreatitis
Ischia, S, Ischia, A, Polati, E, Finco, G, Three posterior percutaneous celiac plexus block techniques. A prospective, randomised study in 61 patients with PC pain, <i>Anesthesiology</i> , 76, 534-40, 1992	No study design. This study is a a prospective randomised trial (NOT CONTROLLED) comparing the transaortic, retrocral, and bilateral chemical splanchnicectomy (Boas' approach) procedures. The results show that there was no difference in analgesic efficacy with respect to recurrent and residual (celiac or nonceliac) pain between the the three, and that neurolytic celiac plexus block gave complete visceral pain relief in 70–80% of patients immediately and in up to 60–75% of patients until death.
Stefaniak, T, Basinski, A, Vingerhoets, A, Makarewicz, W, Connor, S, Kaska, L, Stanek, A, Kwiecinska, B, Lachinski, A. J, Sledzinski, Z, A comparison of two invasive techniques in the management of intractable pain due to inoperable PC: neurolytic celiac plexus block and videothoroscopic splanchnicectomy, <i>European Journal of Surgical OncologyEur J Surg Oncol</i> , 31, 768-73, 2005	No study design: non-randomised prospective case-controlled study of 59 patients NCPB was compared to videothoroscopic splanchnicectomy
Radpay, B, Farhadi, K, Radpay, M. Z, Goldasteh, A, Dabir, S, Parsa, T, Karam, M. B, Fathi, M, Comparison between CT-scan and trans-abdominal sonography in celiac and splanchnic plexus blocks in patients with advanced pancreatic head cancer, <i>Tanaffos</i> , 8, 51-7, 2009	No sufficient data reporting to be summarised (Randomised prospective double-blinded study comparing CT and EUS- guided plexus block (methods not reported and outcomes data reported without any variance estimates)

G.9.1 Nutritional Interventions

Study	Reason for Exclusion
Barber, M. D., Fearon, K. C., Tisdale, M. J., McMillan, D. C., Ross, J. A., Effect of a fish oil-enriched nutritional supplement on metabolic mediators in patients with pancreatic cancer cachexia, <i>Nutrition & Cancer</i> <i>Nutr Cancer</i> , 40, 118-24, 2001	No study design - this study was uncontrolled (non-comparative). Only 28 patients
Barber, M. D., McMillan, D. C., Preston, T., Ross, J. A., Fearon, K. C., Metabolic response to feeding in weight-losing pancreatic cancer patients and its modulation by a fish-oil-enriched nutritional supplement, <i>Clinical ScienceClin Sci (Colch)</i> , 98, 389-99, 2000	No population -This study includes 16 weight-losing, non-diabetic patients with unresectable pancreatic adenocarcinoma and six healthy control (without PC). Therefore was excluded.
Barber, M. D., Ross, J. A., Preston, T., Shenkin, A., Fearon, K. C., Fish oil-enriched nutritional supplement attenuates progression of the acute-phase response in weight-losing patients with advanced pancreatic cancer, <i>Journal of NutritionJ Nutr</i> , 129, 1120-5, 1999	This prospective cohort study was excluded why higher evidence for this comparison (Bauer 2005, Fearon 2003) has present.

Study	Reason for Exclusion
Barber, M. D., Ross, J. A., Voss, A. C., Tisdale, M. J., Fearon, K. C., The effect of an oral nutritional supplement enriched with fish oil on weight-loss in patients with pancreatic cancer, <i>British Journal of Cancer</i> , 81, 80-6, 1999	No study design - the aim of this study was to determine if a combination of EPA with a conventional oral nutritional supplement could produce weight gain in PC patients, BUT THE STUDY WAS uncontrolled
Bauer, J., Capra, S., Battistutta, D., Davidson, W., Ash, S., Cancer Cachexia Study, Group, Compliance with nutrition prescription improves outcomes in patients with unresectable pancreatic cancer, <i>Clinical Nutrition</i> , 24, 998-1004, 2005	No intervention/comparison of interest – this RCT aimed, in a post hoc analysis, to examine the effect of dietary compliance on intake and body composition in patients with unresectable PC. The participant were stratified in two groups based on compliance with the nutrition prescription of consumption of a minimum of 1.5 cans/day of an energy and protein dense oral nutrition supplement±EPA.
Berry, A. J., Pancreatic enzyme replacement therapy during pancreatic insufficiency, <i>Nutrition in Clinical Practice</i> , 29, 312-21, 2014	No population - This trial doesn't report outcomes of interest and as well doesn't provide sufficient details about the study population characteristics.
Braga, M., Bissolati, M., Rocchetti, S., Beneduce, A., Pecorelli, N., Di Carlo, V., Oral preoperative antioxidants in pancreatic surgery: a double-blind, randomized, clinical trial, <i>Nutrition</i> , 28, 160-4, 2012	No population - This trial doesn't report outcomes of interest and as well doesn't provide sufficient details about the study population characteristics.
Chabot, J. A., Tsai, W. Y., Fine, R. L., Chen, C., Kumah, C. K., Antman, K. A., Grann, V. R., Pancreatic proteolytic enzyme therapy compared with gemcitabine-based chemotherapy for the treatment of pancreatic cancer, <i>Journal of Clinical Oncology</i> , 28, 2058-2063, 2010	This prospective cohort study was excluded why didn't include a relevant control according the study protocol (Pancreatic enzyme therapy versus chemotherapy) and also because a higher study design was included that evaluated the effectiveness of Pancreatic enzyme therapy (Bruno 1998)
Davidson W, Ash S, Capra S, Bauer J; Cancer Cachexia Study Group. Weight stabilisation is associated with improved survival duration and quality of life in unresectable pancreatic cancer. <i>Clin Nutr</i> . 2004 Apr;23(2):239-47.	This was a post hoc analysis of Fearon et al., (2003) and was excluded from the review, as the study design was not appropriate. The aim of this study was to determine whether stabilising weight loss for patients with unresectable PC was associated with improved survival and quality of life, but want clear the methods used to pool data and to keep the randomisation from the original RCT (Fearon 2003)
Di Carlo, V., Gianotti, L., Balzano, G., Zerbi, A., Braga, M., Complications of pancreatic surgery and the role of perioperative nutrition, <i>Digestive surgery</i> , 16, 320-6, 1999	This RCT involves 100 patients and it is likely to be an interim analysis of a more recent RTC (N=212) which compares the same interventions, focusing on the same outcomes, come from the same study setting (Italy – S. Raffaele hospital) and has the same Authorship (Giannotti et al.

Study	Reason for Exclusion
	2000). Therefore has been excluded from the review.
Falconi, M., Contro, C., Ballabio, M., Bassi, C., Salvia, R., Pederzoli, P., Evaluation of lanreotide effects on human exocrine pancreatic secretion after a single dose: preliminary study, <i>Digestive & Liver Disease</i> Dig Liver Dis, 34, 127-32, 2002	No study design - cross-over trial of 7 patients
Gartner, S., Kruger, J., Aghdassi, A. A., Steveling, A., Simon, P., Lerch, M. M., Mayerle, J., Nutrition in Pancreatic Cancer: A Review, <i>Gastrointestinal Tumors</i> Gastrointest, 2, 195-202, 2016	No study design - This review evaluates the different nutritional therapies on nutritional status, quality of life and survival in PC - but do not meta-analyses the outcomes data of the included studies.
Hallay, J., Micskei, C., Fulesdi, B., Kovacs, G., Szentkereszty, Z., Takacs, I., Sipka, S., Bodolay, E., Sapy, P., Use of three lumen catheter facilitates bowel movement after pancreato-duodenectomy, <i>Hepato-Gastroenterology</i> Hepatogastroenterology, 55, 1099-102, 2008	No intervention of interest
Harle, L., Brown, T., Laheru, D., Dobs, A. S., Omega-3 fatty acids for the treatment of cancer cachexia: issues in designing clinical trials of dietary supplements, <i>Journal of Alternative & Complementary Medicine</i> J Altern Complement Med, 11, 1039-46, 2005	No study design - study protocol
Heller, A. R., Rossel, T., Gottschlich, B., Tiebel, O., Menschikowski, M., Litz, R. J., Zimmermann, T., Koch, T., Omega-3 fatty acids improve liver and pancreas function in postoperative cancer patients, <i>International Journal of Cancer</i> Int J Cancer, 111, 611-6, 2004	No population - this trial includes patients (n=123) undergoing surgery for pancreatic or gastric cancer, without reporting details about the number of patients with PC
Jo, S., Choi, S. H., Heo, J. S., Kim, E. M., Min, M. S., Choi, D. W., Seo, J. M., Chung, J. C., Kim, Y. I., Missing effect of glutamine supplementation on the surgical outcome after pancreaticoduodenectomy for periampullary tumors: a prospective, randomized, double-blind, controlled clinical trial, <i>World Journal of Surgery</i> , 30, 1974-82; discussion 1983-4, 2006	No population - Patients with PC are less than 35% of the entire study sample (n= 21/60)
Klek, S., Sierzega, M., Szybinski, P., Szczepanek, K., Scislo, L., Walewska, E., Kulig, J., The immunomodulating enteral nutrition in malnourished surgical patients - a prospective, randomized, double-blind clinical trial, <i>Clinical Nutrition</i> Clin Nutr, 30, 282-8, 2011	No population - this trial includes patients (n=123) undergoing resection for pancreatic or gastric cancer, without reporting detail about the number of patients with PC
Kokosis, G., Perez, A., Pappas, T. N., Post-operative nutrition in patients undergoing pancreaticoduodenectomy, <i>Journal of Surgical Radiology</i> , 4, 6-11, 2013	No intervention of interest
Ma, Y. J., Yu, J., Xiao, J., Cao, B. W., The consumption of omega-3 polyunsaturated fatty acids improves clinical outcomes and prognosis in pancreatic cancer patients: a systematic evaluation, <i>Nutrition & Cancer</i> Nutr Cancer, 67, 112-8, 2015	No study design - this MA was aimed to systematically evaluate results of trials examining the effects of omega-3 polyunsaturated fatty acid consumption on body weight, lean body mass, resting energy expenditure, and overall survival in pancreatic cancer patients - but included studies with no PC populations or uncontrolled
Mack, L. A., Kaklamanos, I. G., Livingstone, A. S., Levi, J. U., Robinson, C., Sleeman, D., Franceschi, D., Bathe, O. F., Gastric decompression and enteral feeding through a	No intervention of interest

Study	Reason for Exclusion
double-lumen gastrojejunostomy tube improves outcomes after pancreaticoduodenectomy, <i>Annals of Surgery</i> , 240, 845-851, 2004	
Marten, A., Wente, M. N., Ose, J., Buchler, M. W., Rotzer, I., Decker-Baumann, C., Karapanagiotou-Schenkel, I., Harig, S., Schmidt, J., Jager, D., An open label randomized multicentre phase IIIb trial comparing parenteral substitution versus best supportive nutritional care in subjects with pancreatic adenocarcinoma receiving 5-FU plus oxaliplatin as 2nd or higher line chemotherapy regarding clinical benefit - PANUSCO, <i>BMC Cancer</i> , 9, 412, 2009	No study design - study protocol
Mossner, J., Keim, V., Treatment with pancreatic enzymes. [German, English], <i>Deutsches Arzteblatt</i> , 108, 578-582, 2011	No population - no PC
Nagata, S., Fukuzawa, K., Iwashita, Y., Kabashima, A., Kinoshita, T., Wakasugi, K., Maehara, Y., Comparison of enteral nutrition with combined enteral and parenteral nutrition in post-pancreaticoduodenectomy patients: a pilot study, <i>Nutrition journal</i> , 8, 24, 2009	no study design -This prospective cohort study was excluded because included only 18 patients
Okabayashi, T., Nishimori, I., Yamashita, K., Sugimoto, T., Namikawa, T., Maeda, H., Yatabe, T., Hanazaki, K., Preoperative oral supplementation with carbohydrate and branched-chain amino acid-enriched nutrient improves insulin resistance in patients undergoing a hepatectomy: a randomized clinical trial using an artificial pancreas, <i>Amino acids</i> , 38, 901-7, 2010	No population - no PC patients
Park, J. S., Chung, H. K., Hwang, H. K., Kim, J. K., Yoon, D. S., Postoperative nutritional effects of early enteral feeding compared with total parental nutrition in pancreaticoduodenectomy patients: a prospective, randomized study, <i>Journal of Korean medical science</i> , 27, 261-7, 2012	No population - Patients with PC are less than 36% of the entire study sample (14/38) - 64% Periapillary
Pemberton, L. B., Ross, V., Cuddy, P., Kremer, H., Fessler, T., McGurk, E., No difference in catheter sepsis between standard and antiseptic central venous catheters. A prospective randomized trial, <i>Archives of SurgeryArch Surg</i> , 131, 986-9, 1996	No population - no PC
Richter, S., Uslar, V., Tabriz, N., Mueser, T., Weyhe, D., Progressive postresection program (pPRP) after pancreatic resection: study protocol for a randomized controlled trial, 17, 74, 2016	No study design - study protocol
Slotwinski, R., Olszewski, W., Slodkowski, M., Lech, G., Zaleska, M., Kedziora, S., Wluka, A., Domaszewska, A., Slotwinska, S., Krasnodebski, W., Wojcik, Z., Apoptosis in lymphocytes of pancreatic cancer patients: influence of preoperative enteral immunonutrition and extensive surgery, <i>Archivum immunologiae et therapiae experimentalis</i> , 59, 385-97, 2011	no outcomes of interest
Tseng, D. S., Molenaar, I. Q., Besselink, M. G., van Eijck, C. H., Borel Rinkes, I. H., van Santvoort, H. C., Pancreatic Exocrine Insufficiency in Patients With Pancreatic or Periapillary Cancer: A Systematic Review, <i>Pancreas</i> , 45, 325-30, 2016	No intervention of interest
Vashi, P., Popiel, B., Lammersfeld, C., Gupta, D., Outcomes of systematic nutritional assessment and medical nutrition therapy in pancreatic cancer, <i>Pancreas</i> ,	No study design - non-comparative trial

Study	Reason for Exclusion
44, 750-5, 2015	
Wigmore, S. J., Barber, M. D., Ross, J. A., Tisdale, M. J., Fearon, K. C., Effect of oral eicosapentaenoic acid on weight loss in patients with pancreatic cancer, <i>Nutrition & Cancer</i> , 36, 177-84, 2000	No study design - the aim of this study was to evaluate the acceptability and effects of oral supplementation with high-purity EPA in weight-losing patients with advanced pancreatic cancer but the study was uncontrolled
Wigmore, S. J., Ross, J. A., Falconer, J. S., Plester, C. E., Tisdale, M. J., Carter, D. C., Fearon, K. C., The effect of polyunsaturated fatty acids on the progress of cachexia in patients with pancreatic cancer, <i>Nutrition</i> , 12, S27-30, 1996	No study design - this study was uncontrolled (non-comparative). Only 18 patients
Yokoyama, Y., Ebata, T., Igami, T., Sugawara, G., Nagino, M., Is the enteral replacement of externally drained pancreatic juice valuable after pancreatoduodenectomy?, <i>Surgery Today</i> , 44, 252-9, 2014	No population - Patients with PC are less than 26% of the entire study sample (n= 12/46)
Mack, L. A., Kaklamanos, I. G., Livingstone, A. S., Levi, J. U., Robinson, C., Sleeman, D., Franceschi, D., Bathe, O. F., Gastric decompression and enteral feeding through a double-lumen gastrojejunostomy tube improves outcomes after pancreaticoduodenectomy, <i>Annals of Surgery</i> , 240, 845-851, 2004	No intervention of interest – this feasibility study aimed to evaluate the effectiveness and safety of prescribing pancreatic extract (Creon®) for patients with advanced pancreatic cancer. This intervention was not included in the PICO question

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G.10₃ Biliary obstruction

Study	Reason for Exclusion
Adams, M. A., Anderson, M. A., Myles, J. D., Khalatbari, S., Scheiman, J. M., Self-expanding metal stents (SEMS) provide superior outcomes compared to plastic stents for pancreatic cancer patients undergoing neoadjuvant therapy, <i>Journal of Gastrointestinal Oncology</i> , 3, 309-13, 2012	Comparative cohort study
Almadi, M. A., Barkun, A. N., Martel, M., No benefit of covered vs uncovered self-expandable metal stents in patients with malignant distal biliary obstruction: a meta-analysis, <i>Clinical Gastroenterology & Hepatology</i> , 11, 27-37.e1, 2013	Meta-analysis. Reference list checked to ensure all relevant articles included.
Almadi, M. A., Barkun, A., Martel, M., Plastic vs. Self-Expandable Metal Stents for Palliation in Malignant Biliary Obstruction: A Series of Meta-Analyses, <i>American Journal of Gastroenterology</i> , 112, 260-273, 2017	Checked, no additional relevant articles; no record found of included article Bernon et al. 2012 in cited journal [South African Medical Journal]
Aly, E. A., Johnson, C. D., Preoperative biliary drainage before resection in obstructive jaundice, <i>Digestive Surgery</i> , 18, 84-9, 2001	Review article (not reported to be systematic). Reference list checked - 5 RCTs included, but all were published pre- 1995. Remaining evidence included comes from cohort studies.
Andersson, R., Jonsson, A., Westerdahl, J., Preoperative biliary decompression in malignant biliary obstruction - Is it of any value?, <i>Surgical Research Communications</i> , 19, 231-236, 1998	Comparative cohort study

Study	Reason for Exclusion
Andtbacka, R. H., Evans, D. B., Pisters, P. W., Surgical and endoscopic palliation for pancreatic cancer, <i>Minerva Chirurgica</i> <i>Minerva Chir</i> , 59, 123-36, 2004	Narrative review
Banerjee, N., Hilden, K., Baron, T. H., Adler, D. G., Endoscopic biliary sphincterotomy is not required for transpapillary SEMS placement for biliary obstruction, <i>Digestive diseases and sciences</i> , 56, 591-595, 2011	Comparative cohort study
Baniya, R., Upadhaya, S., Madala, S., Subedi, S. C., Shaik Mohammed, T., Bachuwa, G., Endoscopic ultrasound-guided biliary drainage versus percutaneous transhepatic biliary drainage after failed endoscopic retrograde cholangiopancreatography: a meta-analysis, <i>Clinical & Experimental Gastroenterology</i> <i>Clin</i> , 10, 67-74, 2017	Checked, no additional relevant articles
Bapaye, A., Dubale, N., Aher, A., Comparison of endosonography-guided vs. Percutaneous biliary stenting when papilla is inaccessible for ERCP, <i>United European Gastroenterology Journal</i> , 1, 285-293, 2013	Comparative cohort study
Bartlett, E. K., Wachtel, H., Fraker, D. L., Vollmer, C. M., Drebin, J. A., Kelz, R. R., Karakousis, G. C., Roses, R. E., Surgical palliation for pancreatic malignancy: practice patterns and predictors of morbidity and mortality, <i>Journal of Gastrointestinal Surgery</i> <i>J Gastrointest Surg</i> , 18, 1292-8, 2014	Comparative cohort study
Bill, J. G., Darcy, M., Fujii-Lau, L. L., Mullady, D. K., Gaddam, S., Murad, F. M., Early, D. S., Edmundowicz, S. A., Kushnir, V. M., A comparison between endoscopic ultrasound-guided rendezvous and percutaneous biliary drainage after failed ERCP for malignant distal biliary obstruction, <i>Endoscopy International Open</i> <i>Endosc Int Open</i> , 4, E980-5, 2016	Comparative cohort.
Bliss, L. A., Eskander, M. F., Kent, T. S., Watkins, A. A., de Geus, S. W., Storino, A., Ng, S. C., Callery, M. P., Moser, A. J., Tseng, J. F., Early surgical bypass versus endoscopic stent placement in pancreatic cancer, <i>HPB</i> <i>HPb</i> , 18, 671-7, 2016	Comparative cohort study
Bonin, E. A., Baron, T. H., Preoperative biliary stents in pancreatic cancer, <i>Journal of Hepato-Biliary-Pancreatic Sciences</i> , 18, 621-9, 2011	Narrative review article.
Born, P., Rosch, T., Bruhl, K., Ulm, K., Sandschin, W., Frimberger, E., Allescher, H., Classen, M., Long-term results of endoscopic treatment of biliary duct obstruction due to pancreatic disease, <i>Hepato-gastroenterology</i> , 45, 833-9, 1998	Comparative cohort study
Castano, R., Lopes, T. L., Alvarez, O., Calvo, V., Luz, L. P., Artifon, E. L., Nitinol biliary stent versus surgery for palliation of distal malignant biliary obstruction, <i>Surgical endoscopy</i> , 24, 2092-8, 2010	Comparative cohort study
Catalano, M. F., Geenen, J. E., Lehman, G. A., Siegel, J. H., Jacob, L., McKinley, M. J., Rajiman, I., Meier, P., Jacobson, I., Kozarek, R., Al-Kawas, F. H., Lo, S. K., Dua, K. S., Baille, J., Ginsberg, G. G., Parsons, W., Meyerson, S. M., Cohen, S., Nelson, D. B., McHattie, J. D., Carr-Locke, D. L., "Tannenbaum" Teflon stents versus traditional polyethylene stents for treatment of malignant biliary stricture, <i>Gastrointestinal Endoscopy</i> , 55, 354-8, 2002	Plastic stent vs plastic stent
Cavell, L. K., Allen, P. J., Vinoya, C., Eaton, A. A., Gonen, M., Gerdes, H., Mendelsohn, R. B., D'Angelica, M. I., Kingham, T. P., Fong, Y., Dematteo, R., Jarnagin, W. R., Kurtz, R. C.,	Comparative cohort study

Study	Reason for Exclusion
Schattner, M. A., Biliary self-expandable metal stents do not adversely affect pancreaticoduodenectomy, <i>American Journal of Gastroenterology</i> , 108, 1168-73, 2013	
Chalmers, J., James, M., Archer, T., Gomez, D., Pre-operative endoscopic management of biliary obstruction in pancreatic cancer: Are ESGE guidelines relevant and achievable in the UK?, <i>Gut</i> , 65, A230, 2016	Conference abstract.
Chandrasegaram, M. D., Eslick, G. D., Mansfield, C. O., Liem, H., Richardson, M., Ahmed, S., Cox, M. R., Endoscopic stenting versus operative gastrojejunostomy for malignant gastric outlet obstruction, <i>Surgical endoscopy</i> , 26, 323-9, 2012	Comparative cohort study
Chen, M. Y., Lin, J. W., Zhu, H. P., Zhang, B., Jiang, G. Y., Yan, P. J., Cai, X. J., Covered Stents versus Uncovered Stents for Unresectable Malignant Biliary Strictures: A Meta-Analysis, <i>BioMed Research International</i> <i>Biomed Res Int</i> , 2016, 6408067, 2016	Meta-analysis. Reference list checked to ensure all relevant articles included.
Cho, Y. K., Shin, J. H., Oh, S. Y., Significance of palliative gastrojejunostomy for unresectable pancreatic head carcinoma, <i>Hepato-gastroenterology</i> , 55, 254-7, 2008	Patients do not have biliary obstruction
Chou, F. F., SheenChen, S. M., Chen, Y. S., Chen, M. C., Chen, C. L., Postoperative morbidity and mortality of pancreaticoduodenectomy for periampullary cancer, <i>European Journal of Surgery</i> <i>Eur J Surg</i> , 162, 477-481, 1996	Patients do not have biliary obstruction
Coates, J. M., Beal, S. H., Russo, J. E., Vanderveen, K. A., Chen, S. L., Bold, R. J., Canter, R. J., Negligible effect of selective preoperative biliary drainage on perioperative resuscitation, morbidity, and mortality in patients undergoing pancreaticoduodenectomy, <i>Archives of Surgery</i> <i>Arch Surg</i> , 144, 841-7, 2009	Comparative cohort study
Costamagna, G., Mutignani, M., Rotondano, G., Cipolletta, L., Ghezzi, L., Foco, A., Zambelli, A., Hydrophilic hydromer-coated polyurethane stents versus uncoated stents in malignant biliary obstruction: a randomized trial, <i>Gastrointestinal Endoscopy</i> , 51, 8-11, 2000	Plastic stent vs plastic stent
Cote, G. A., Kumar, N., Ansstas, M., Edmundowicz, S. A., Jonnalagadda, S., Mullady, D. K., Azar, R. R., Risk of post-ERCP pancreatitis with placement of self-expandable metallic stents, <i>Gastrointestinal Endoscopy</i> , 72, 748-54, 2010	Comparative cohort study
Cui, P. J., Yao, J., Zhao, Y. J., Han, H. Z., Yang, J., Biliary stenting with or without sphincterotomy for malignant biliary obstruction: a meta-analysis, <i>World journal of gastroenterology</i> , 20, 14033-9, 2014	Includes study (Zhou 2012) that has <66% PC patients
Decker, C., Christein, J. D., Phadnis, M. A., Wilcox, C. M., Varadarajulu, S., Biliary metal stents are superior to plastic stents for preoperative biliary decompression in pancreatic cancer, <i>Surgical endoscopy</i> , 25, 2364-7, 2011	Comparative cohort study
Deziel, D. J., Wilhelmi, B., Staren, E. D., Doolas, A., Surgical palliation for ductal adenocarcinoma of the pancreas, <i>American Surgeon</i> <i>Am Surg</i> , 62, 582-8, 1996	Comparative cohort study
Di Fronzo, L. A., Cymerman, J., Egrari, S., O'Connell, T. X., Unresectable pancreatic carcinoma: correlating length of survival with choice of palliative bypass, <i>American Surgeon</i> <i>Am Surg</i> , 65, 955-8, 1999	Comparative cohort study
di Mola, F. F., Tavano, F., Rago, R. R., De Bonis, A., Valvano, M. R., Andriulli, A., di Sebastiano, P., Influence of	Comparative cohort study

Study	Reason for Exclusion
preoperative biliary drainage on surgical outcome after pancreaticoduodenectomy: single centre experience, Langenbecks Archives of SurgeryLangenbecks Arch Surg, 399, 649-57, 2014	
Distler, M., Kersting, S., Ruckert, F., Dobrowolski, F., Miehke, S., Grutzmann, R., Saeger, H. D., Palliative treatment of obstructive jaundice in patients with carcinoma of the pancreatic head or distal biliary tree. Endoscopic stent placement vs. hepaticojejunostomy, Jop: Journal of the Pancreas [Electronic Resource]Jop, 11, 568-74, 2010	Comparative cohort study
Dua, K. S., Reddy, N. D., Rao, V. G., Banerjee, R., Medda, B., Lang, I., Impact of reducing duodenobiliary reflux on biliary stent patency: an in vitro evaluation and a prospective randomized clinical trial that used a biliary stent with an antireflux valve, Gastrointestinal EndoscopyGastrointest Endosc, 65, 819-28, 2007	Plastic stent vs plastic stent
Elwir, S., Sharzehi, K., Veith, J., Moyer, M. T., Dye, C., McGarrity, T., Mathew, A., Biliary stenting in patients with malignant biliary obstruction: comparison of double layer, plastic and metal stents, Digestive Diseases & SciencesDig Dis Sci, 58, 2088-92, 2013	Comparative cohort study
England, R. E., Martin, D. F., Morris, J., Sheridan, M. B., Frost, R., Freeman, A., Lawrie, B., Deakin, M., Fraser, I., Smith, K., A prospective randomised multicentre trial comparing 10 Fr Teflon Tannenbaum stents with 10 Fr polyethylene Cotton-Leung stents in patients with malignant common duct strictures, GutGut, 46, 395-400, 2000	Plastic stent vs plastic stent
Fang, Y., Gurusamy, K. S., Wang, Q., Davidson, B. R., Lin, H., Xie, X., Wang, C., Meta-analysis of randomized clinical trials on safety and efficacy of biliary drainage before surgery for obstructive jaundice, British Journal of Surgery, 100, 1589-96, 2013	Meta-analysis. Predominantly includes studies published pre-1995. Reference list checked to ensure all relevant articles included.
Fang, Yuan, Gurusamy Kurinchi, Selvan, Wang, Qin, Davidson Brian, R., Lin, He, Xie, Xiaodong, Wang, Chaohua, Pre-operative biliary drainage for obstructive jaundice, Cochrane Database of Systematic Reviews, 2012	Systematic review, includes participants without a malignant cause of obstructive jaundice. Also includes articles published pre-1995. Reference list checked for relevant studies to include.
Flores Carmona, D. Y., Alonso Larraga, J. O., Hernandez Guerrero, A., Ramirez Solis, M. E., Comparison of covered and uncovered self-expandable stents in the treatment of malignant biliary obstruction, Revista Espanola de Enfermedades DigestivasRev Esp Enferm Dig, 108, 246-9, 2016	Comparative cohort study
French, J. J., Mansfield, S. D., Jaques, K., Jaques, B. C., Manas, D. M., Charnley, R. M., Fast-track management of patients undergoing proximal pancreatic resection, Annals of the Royal College of Surgeons of EnglandAnn R Coll Surg Engl, 91, 201-4, 2009	Comparative cohort study
Furukawa, K., Shiba, H., Shirai, Y., Horiuchi, T., Iwase, R., Haruki, K., Fujiwara, Y., Misawa, T., Yanaga, K., Negative Impact of Preoperative Endoscopic Biliary Drainage on Prognosis of Pancreatic Ductal Adenocarcinoma After Pancreaticoduodenectomy, Anticancer ResearchAnticancer Res, 35, 5079-83, 2015	Comparative cohort study
Garcia Sanchez, M. V., Lopez Vallejos, P., Perez de Luque, D., Naranjo Rodriguez, A., Hervas Molina, A., Gonzalez	Retrospective comparative cohort study.

Study	Reason for Exclusion
Galilea, A., Calero Ayala, B., Padillo Ruiz, J., Solorzano Peck, G., de Dios Vega, J. F., Biliopancreatic tumors: patient survival and quality of life after palliative treatment, <i>Revista Espanola de Enfermedades Digestivas</i> Rev Esp Enferm Dig, 96, 305-14, 2004	
Gavazzi, F., Ridolfi, C., Capretti, G., Angiolini, M. R., Morelli, P., Casari, E., Montorsi, M., Zerbi, A., Role of preoperative biliary stents, bile contamination and antibiotic prophylaxis in surgical site infections after pancreaticoduodenectomy, <i>BMC Gastroenterology</i> BMC Gastroenterol, 16, 43, 2016	Comparative cohort.
Gerke, H., White, R., Byrne, M. F., Stiffier, H., Mitchell, R. M., Hurwitz, H. I., Morse, M. A., Branch, M. S., Jowell, P. S., Czito, B., Clary, B., Pappas, T. N., Tyler, D. S., Baillie, J., Complications of pancreaticoduodenectomy after neoadjuvant chemoradiation in patients with and without preoperative biliary drainage, <i>Digestive & Liver Disease</i> Dig Liver Dis, 36, 412-8, 2004	Comparative cohort study
Gillen, S., Schuster, T., Friess, H., Kleeff, J., Palliative resections versus palliative bypass procedures in pancreatic cancer: a systematic review, <i>American journal of surgery</i> , 203, 496-502, 2012	Systematic review. Does not include any RCT data, only cohort studies.
Glazer, E. S., Hornbrook, M. C., Krouse, R. S., A meta-analysis of randomized trials: immediate stent placement vs. surgical bypass in the palliative management of malignant biliary obstruction, <i>Journal of Pain & Symptom Management</i> J Pain Symptom Manage, 47, 307-14, 2014	Meta-analysis. Majority of included studies were published pre-1995. Reference list checked to ensure all relevant articles identified.
Hammarstrom, L. E., Role of palliative endoscopic drainage in patients with malignant biliary obstruction, <i>Digestive Surgery</i> Dig Surg, 22, 295-304, 2005	Systematic review. Predominantly includes studies published pre-1995. Reference list checked to ensure all relevant articles are included.
Herzog, T., Belyaev, O., Muller, C. A., Mittelkotter, U., Seelig, M. H., Weyhe, D., Felderbauer, P., Schlottmann, R., Schrader, H., Schmidt, W. E., Uhl, W., Bacteribilia after preoperative bile duct stenting: A prospective study, <i>Journal of Clinical Gastroenterology</i> , 43, 457-462, 2009	Comparative cohort study
Hong, W. D., Chen, X. W., Wu, W. Z., Zhu, Q. H., Chen, X. R., Metal versus plastic stents for malignant biliary obstruction: an update meta-analysis, <i>Clinics & Research in Hepatology & Gastroenterology</i> Clin Res Hepatol Gastroenterol, 37, 496-500, 2013	Meta-analysis. Includes some studies published pre-1995. Reference list checked to ensure all relevant articles obtained.
Hong, W., Sun, X., Zhu, Q., Endoscopic stenting for malignant hilar biliary obstruction: should it be metal or plastic and unilateral or bilateral?, <i>European journal of gastroenterology & hepatology</i> , 25, 1105-12, 2013	Reference list checked for relevant studies - none identified (majority include participants with cholangiocarcinoma or are retrospective cohort studies).
Howard, T. J., Yu, J., Greene, R. B., George, V., Wairiuko, G. M., Moore, S. A., Madura, J. A., Influence of bacteribilia after preoperative biliary stenting on postoperative infectious complications, <i>Journal of Gastrointestinal Surgery</i> , 10, 523-31, 2006	Comparative cohort study
Huang, X., Liang, B., Zhao, X. Q., Zhang, F. B., Wang, X. T., Dong, J. H., The effects of different preoperative biliary drainage methods on complications following pancreaticoduodenectomy, <i>Medicine</i> Medicine (Baltimore), 94, e723, 2015	Comparative cohort study
Huser, N., Michalski, C. W., Schuster, T., Friess, H., Kleeff, J.,	Does not include interventions for

Study	Reason for Exclusion
Systematic review and meta-analysis of prophylactic gastroenterostomy for unresectable advanced pancreatic cancer, <i>British Journal of Surgery</i> , 96, 711-9, 2009	biliary obstruction, only articles which include gastroenterostomy.
Isayama, H., Komatsu, Y., Tsujino, T., Sasahira, N., Hirano, K., Toda, N., Nakai, Y., Yamamoto, N., Tada, M., Yoshida, H., Shiratori, Y., Kawabe, T., Omata, M., A prospective randomised study of "covered" versus "uncovered" diamond stents for the management of distal malignant biliary obstruction, <i>Gut</i> , 53, 729-34, 2004	<66% PC patients
Isayama, H., Mukai, T., Itoi, T., Maetani, I., Nakai, Y., Kawakami, H., Yasuda, I., Maguchi, H., Ryozaawa, S., Hanada, K., Hasebe, O., Ito, K., Kawamoto, H., Mochizuki, H., Igarashi, Y., Irisawa, A., Sasaki, T., Togawa, O., Hara, T., Kamada, H., Toda, N., Kogure, H., Comparison of partially covered nitinol stents with partially covered stainless stents as a historical control in a multicenter study of distal malignant biliary obstruction: the WATCH study, <i>Gastrointestinal Endoscopy</i> , 76, 84-92, 2012	Comparative cohort study
Ito, K., Igarashi, Y., Mimura, T., Kishimoto, Y., Kikuchi, Y., Okano, N., Efficacy of the new double-layer stent for unresectable distal malignant biliary obstruction: A single-center retrospective study, <i>Diagnostic and Therapeutic Endoscopy</i> , (no pagination), 2012	Comparative cohort study
Itoi, T., Sofuni, A., Itokawa, F., Tsuchiya, T., Kurihara, T., Ishii, K., Tsuji, S., Ikeuchi, N., Umeda, J., Moriyasu, F., Tsuchida, A., Endoscopic ultrasonography-guided biliary drainage, <i>Journal of Hepato-biliary-pancreatic Sciences</i> <i>Hepatobiliary Pancreat Sci</i> , 17, 611-6, 2010	Review of case reports/case series describing procedure of endoscopic ultrasound guided biliary drainage. No comparison of efficacy of different techniques.
Jagannath, P., Dhir, V., Shrikhande, S., Shah, R. C., Mullerpatan, P., Mohandas, K. M., Effect of preoperative biliary stenting on immediate outcome after pancreaticoduodenectomy, <i>British Journal of Surgery</i> , 92, 356-61, 2005	Comparative cohort study
Jang, S. I., Kim, J. H., You, J. W., Rhee, K., Lee, S. J., Kim, H. G., Han, J., Shin, I. H., Park, S. H., Lee, D. K., Efficacy of a metallic stent covered with a paclitaxel-incorporated membrane versus a covered metal stent for malignant biliary obstruction: a prospective comparative study, <i>Digestive Diseases & Sciences</i> <i>Dig Dis Sci</i> , 58, 865-71, 2013	Comparative cohort study
Jethwa, P., Breuning, E., Bhati, C., Buckles, J., Mirza, D., Bramhall, S., The microbiological impact of pre-operative biliary drainage on patients undergoing hepato-biliary-pancreatic (HPB) surgery, <i>Alimentary Pharmacology & Therapeutics</i> <i>Aliment Pharmacol Ther</i> , 25, 1175-80, 2007	Comparative cohort study
Kallis, Y., Phillips, N., Steel, A., Kaltsidis, H., Vlavianos, P., Habib, N., Westaby, D., Analysis of Endoscopic Radiofrequency Ablation of Biliary Malignant Strictures in Pancreatic Cancer Suggests Potential Survival Benefit, <i>Digestive Diseases & Sciences</i> <i>Dig Dis Sci</i> , 60, 3449-55, 2015	Comparative cohort study
Karsten, T. M., Allema, J. H., Reinders, M., van Gulik, T. M., de Wit, L. T., Verbeek, P. C., Huibregtse, K., Tytgat, G. N., Gouma, D. J., Preoperative biliary drainage, colonisation of bile and postoperative complications in patients with tumours of the pancreatic head: a retrospective analysis of 241 consecutive patients, <i>European Journal of Surgery</i> <i>Eur J Surg</i> , 162, 881-8, 1996	Comparative cohort study
Katsinelos, P., Paikos, D., Kountouras, J., Chatzimavroudis,	<66% PC patients

Study	Reason for Exclusion
G., Paroutoglou, G., Moschos, I., Gatopoulou, A., Beltsis, A., Zavos, C., Papaziogas, B., Tannenbaum and metal stents in the palliative treatment of malignant distal bile duct obstruction: a comparative study of patency and cost effectiveness, <i>Surgical endoscopy</i> , 20, 1587-93, 2006	
Katsinelos, P., Paroutoglou, G., Chatzimavroudis, G., Terzoudis, S., Zavos, C., Gelas, G., Pilpidis, I., Kountouras, J., Prospective randomized study comparing double layer and Tannenbaum stents in distal malignant biliary stenosis, <i>Acta gastro-enterologica Belgica</i> , 73, 445-50, 2010	Plastic stent vs plastic stent
Kawaguchi, J., Mukai, T., Tezuka, R., Kato, T., Tomita, E., Preoperative biliary stent placement in patients with pancreatic cancer, <i>Journal of Gastroenterology and Hepatology (Australia)</i> , 31, 261, 2016	Conference abstract.
Kawakubo, K., Isayama, H., Kato, H., Itoi, T., Kawakami, H., Hanada, K., Ishiwatari, H., Yasuda, I., Kawamoto, H., Itokawa, F., Kuwatani, M., Iiboshi, T., Hayashi, T., Doi, S., Nakai, Y., Multicenter retrospective study of endoscopic ultrasound-guided biliary drainage for malignant biliary obstruction in Japan, <i>Journal of Hepato-biliary-pancreatic SciencesJ Hepatobiliary Pancreat Sci</i> , 21, 328-34, 2014	Comparative cohort study
Kawakubo, K., Kawakami, H., Kuwatani, M., Kubota, Y., Kawahata, S., Kubo, K., Sakamoto, N., Endoscopic ultrasound-guided choledochoduodenostomy vs. transpapillary stenting for distal biliary obstruction, <i>Endoscopy</i> , 48, 164-9, 2016	Comparative cohort study
Khashab, M. A., Valeshabad, A. K., Afghani, E., Singh, V. K., Kumbhari, V., Messallam, A., Saxena, P., El Zein, M., Lennon, A. M., Canto, M. I., Kalloo, A. N., A Comparative Evaluation of EUS-Guided Biliary Drainage and Percutaneous Drainage in Patients with Distal Malignant Biliary Obstruction and Failed ERCP, <i>Digestive diseases and sciences</i> , 60, 557-565, 2015	Comparative cohort study
Khashab, M. A., Valeshabad, A. K., Modayil, R., Widmer, J., Saxena, P., Idrees, M., Iqbal, S., Kalloo, A. N., Stavropoulos, S. N., EUS-guided biliary drainage by using a standardized approach for malignant biliary obstruction: rendezvous versus direct transluminal techniques (with videos), <i>Gastrointestinal Endoscopy</i> , 78, 734-41, 2013	Comparative cohort study
Kim, H. O., Hwang, S. I., Kim, H., Shin, J. H., Quality of survival in patients treated for malignant biliary obstruction caused by unresectable pancreatic head cancer: surgical versus non-surgical palliation, <i>Hepatobiliary & Pancreatic Diseases InternationalHepatobiliary Pancreat Dis Int</i> , 7, 643-8, 2008	Comparative cohort study. No data on patient reported outcomes.
Kneuert, P. J., Cunningham, S. C., Cameron, J. L., Torrez, S., Tapazoglou, N., Herman, J. M., Makary, M. A., Eckhauser, F., Wang, J., Hirose, K., Edil, B. H., Choti, M. A., Schulick, R. D., Wolfgang, C. L., Pawlik, T. M., Palliative surgical management of patients with unresectable pancreatic adenocarcinoma: trends and lessons learned from a large, single institution experience, <i>Journal of Gastrointestinal SurgeryJ Gastrointest Surg</i> , 15, 1917-27, 2011	Comparative cohort study
Kofokotsios, A., Papazisis, K., Andronikidis, I., Ntinias, A., Kardassis, D., Vrochides, D., Palliation With Endoscopic Metal Stents May Be Preferable to Surgical Intervention for Patients With Obstructive Pancreatic Head Adenocarcinoma,	Comparative cohort study

Study	Reason for Exclusion
International surgery, 100, 1104-10, 2015	
Koninger, J., Wenthe, M. N., Muller, M. W., Gutt, C. N., Friess, H., Buchler, M. W., Surgical palliation in patients with pancreatic cancer, Langenbeck's Archives of Surgery, 392, 13-21, 2007	Narrative review article.
Kubota, K., Sato, T., Watanabe, S., Hosono, K., Kobayashi, N., Mori, R., Taniguchi, K., Matsuyama, R., Endo, I., Nakajima, A., Covered self-expandable metal stent deployment promises safe neoadjuvant chemoradiation therapy in patients with borderline resectable pancreatic head cancer, Digestive EndoscopyDig, 26, 77-86, 2014	Comparative cohort study
Kymionis, G. D., Konstadoulakis, M. M., Leandros, E., Manouras, A., Apostolou, A., Alexiou, D., Katsaragakis, S., Androulakis, G., Effect of curative versus palliative surgical treatment for stage III pancreatic cancer patients, Journal of the Royal College of Surgeons of Edinburgh, 44, 231-235, 1999	Comparative cohort study
Lammer, J., Hausegger, K. A., Fluckiger, F., Winkelbauer, F. W., Wildling, R., Klein, G. E., Thurnher, S. A., Havelec, L., Common bile duct obstruction due to malignancy: treatment with plastic versus metal stents, RadiologyRadiology, 201, 167-72, 1996	<66% PC patients
Larsen, L., Medhus, A. W., Hjermstad, M. J., Korner, H., Glomsaker, T., Soberg, T., Gleditsch, D., Hovde, O., Nesbakken, A., Tholfsen, J. K., Skreden, K., Hauge, T., Patient-reported outcomes in palliative gastrointestinal stenting: a Norwegian multicenter study, Surgical Endoscopy and Other Interventional Techniques, 25, 3162-3169, 2011	Not specific to biliary obstruction. Includes different types of gastrointestinal stents.
Lavu, H., Mascaro, A. A., Grenda, D. R., Sauter, P. K., Leiby, B. E., Croker, S. P., Witkiewicz, A., Berger, A. C., Rosato, E. L., Kennedy, E. P., Yeo, C. J., Margin positive pancreaticoduodenectomy is superior to palliative bypass in locally advanced pancreatic ductal adenocarcinoma, Journal of Gastrointestinal SurgeryJ Gastrointest Surg, 13, 1937-46; discussion 1946-7, 2009	Comparative cohort study
Lee, J. H., Krishna, S. G., Singh, A., Ladha, H. S., Slack, R. S., Ramireddy, S., Raju, G. S., Davila, M., Ross, W. A., Comparison of the utility of covered metal stents versus uncovered metal stents in the management of malignant biliary strictures in 749 patients, Gastrointestinal Endoscopy, 78, 312-24, 2013	Comparative cohort study
Lee, S. J., Kim, M. D., Lee, M. S., Kim, I. J., Park, S. I., Won, J. Y., Lee do, Y., Comparison of the efficacy of covered versus uncovered metallic stents in treating inoperable malignant common bile duct obstruction: a randomized trial, Journal of Vascular & Interventional RadiologyJ Vasc Interv Radiol, 25, 1912-20, 2014	<66% PC patients
Lee, Y. N., Moon, J. H., Choi, H. J., Choi, M. H., Lee, T. H., Cha, S. W., Cho, Y. D., Choi, S. Y., Lee, H. K., Park, S. H., Effectiveness of a newly designed antireflux valve metal stent to reduce duodenobiliary reflux in patients with unresectable distal malignant biliary obstruction: A randomized, controlled pilot study (with videos), Gastrointestinal Endoscopy, 83, 404-412, 2016	<66% PC patients
Leng, J. J., Zhang, N., Dong, J. H., Percutaneous transhepatic and endoscopic biliary drainage for malignant biliary tract obstruction: a meta-analysis, World Journal of	Meta-analysis. Reference list checked to ensure all relevant studies included.

Study	Reason for Exclusion
Surgical OncologyWorld J Surg Oncol, 12, 272, 2014	
Li, J., Li, T., Sun, P., Yu, Q., Wang, K., Chang, W., Song, Z., Zheng, Q., Covered versus Uncovered Self-Expandable Metal Stents for Managing Malignant Distal Biliary Obstruction: A Meta-Analysis, PLoS ONE [Electronic Resource]PLoS ONE, 11, e0149066, 2016	Meta-analysis. Reference list checked to ensure all relevant articles have been included.
Lillemoe, K. D., Cameron, J. L., Hardacre, J. M., Sohn, T. A., Sauter, P. K., Coleman, J., Pitt, H. A., Yeo, C. J., Is prophylactic gastrojejunostomy indicated for unresectable periampullary cancer? A prospective randomized trial, Annals of Surgery, 230, 322-8; discussion 328-30, 1999	Procedure does not treat biliary obstruction.
Lillemoe, K. D., Cameron, J. L., Yeo, C. J., Sohn, T. A., Nakeeb, A., Sauter, P. K., Hruban, R. H., Abrams, R. A., Pitt, H. A., Pancreaticoduodenectomy: Does it have a role in the palliation of pancreatic cancer?, Annals of Surgery, 223, 718-728, 1996	Comparative cohort study
Limongelli, P., Pai, M., Bansi, D., Thiallinagram, A., Tait, P., Jackson, J., Habib, N. A., Williamson, R. C. N., Jiao, L. R., Correlation between preoperative biliary drainage, bile duct contamination, and postoperative outcomes for pancreatic surgery, SurgerySurgery, 142, 313-318, 2007	Comparative cohort study
Lin, H., Li, S., Liu, X., The safety and efficacy of nasobiliary drainage versus biliary stenting in malignant biliary obstruction: A systematic review and meta-analysis, MedicineMedicine (Baltimore), 95, e5253, 2016	Checked, no identified RCTs
Loew, B. J., Howell, D. A., Sanders, M. K., Desilets, D. J., Kortan, P. P., May, G. R., Shah, R. J., Chen, Y. K., Parsons, W. G., Hawes, R. H., Cotton, P. B., Slivka, A. A., Ahmad, J., Lehman, G. A., Sherman, S., Neuhaus, H., Schumacher, B. M., Comparative performance of uncoated, self-expanding metal biliary stents of different designs in 2 diameters: final results of an international multicenter, randomized, controlled trial, Gastrointestinal Endoscopy, 70, 445-453, 2009	Compares 2 types of metal stent
Lofts, F. J., Evans, T. R., Mansi, J. L., Glees, J. P., Knight, M. J., Bile duct stents: is there an increased rate of complications in patients receiving chemotherapy?, European Journal of CancerEur J Cancer, 33, 209-13, 1997	Comparative cohort study
Luigiano, C., Ferrara, F., Cennamo, V., Fabbri, C., Bassi, M., Ghersi, S., Consolo, P., Morace, C., Polifemo, A. M., Billi, P., Ceroni, L., Alibrandi, A., D'Imperio, N., A comparison of uncovered metal stents for the palliation of patients with malignant biliary obstruction: nitinol vs. stainless steel, Digestive & Liver DiseaseDig Liver Dis, 44, 128-33, 2012	Comparative cohort study.
Maosheng, D., Ohtsuka, T., Ohuchida, J., Inoue, K., Yokohata, K., Yamaguchi, K., Chijiiwa, K., Tanaka, M., Surgical bypass versus metallic stent for unresectable pancreatic cancer, Journal of hepato-biliary-pancreatic surgery, 8, 367-73, 2001	Retrospective comparative cohort study.
Martignoni, M. E., Wagner, M., Krahenbuhl, L., Redaelli, C. A., Friess, H., Buchler, M. W., Effect of preoperative biliary drainage on surgical outcome after pancreatoduodenectomy, American journal of surgery, 181, 52-9; discussion 87, 2001	Comparative cohort study
Mezhir, J. J., Brennan, M. F., Baser, R. E., D'Angelica, M. I., Fong, Y., DeMatteo, R. P., Jarnagin, W. R., Allen, P. J., A matched case-control study of preoperative biliary drainage in patients with pancreatic adenocarcinoma: routine drainage is not justified, Journal of Gastrointestinal Surgery, 13, 2163-9,	Case control study

Study	Reason for Exclusion
2009	
Miyayama, S., Matsui, O., Akakura, Y., Yamamoto, T., Nishida, H., Yoneda, K., Kawai, K., Toya, D., Tanaka, N., Mitsui, T., Asada, Y., Efficacy of covered metallic stents in the treatment of unresectable malignant biliary obstruction, <i>Cardiovascular & Interventional Radiology</i> <i>Cardiovasc Intervent Radiol</i> , 27, 349-54, 2004	Comparative cohort study
Moole, H., Bechtold, M. L., Cashman, M., Volmar, F. H., Dhillon, S., Forcione, D., Taneja, D., Puli, S. R., Covered versus uncovered self-expandable metal stents for malignant biliary strictures: A meta-analysis and systematic review, <i>Indian Journal of Gastroenterology</i> <i>Indian J Gastroenterol</i> , 35, 323-330, 2016	Checked, no additional relevant RCTs
Moole, H., Bechtold, M. L., Forcione, D., Puli, S. R., A meta-analysis and systematic review: Success of endoscopic ultrasound guided biliary stenting in patients with inoperable malignant biliary strictures and a failed ERCP, <i>Medicine</i> <i>Medicine (Baltimore)</i> , 96, e5154, 2017	Checked, no additional RCTs
Moole, H., Bechtold, M., Puli, S. R., Efficacy of preoperative biliary drainage in malignant obstructive jaundice: a meta-analysis and systematic review, <i>World Journal of Surgical Oncology</i> <i>World J Surg Oncol</i> , 14, 182, 2016	Systematic review includes predominantly retrospective comparative cohort studies. Reference list checked to identify any potentially relevant RCTs.
Moole, H., Jaeger, A., Cashman, M., Volmar, F. H., Dhillon, S., Bechtold, M. L., Puli, S. R., Are self-expandable metal stents superior to plastic stents in palliating malignant distal biliary strictures? A meta-analysis and systematic review, <i>Medical Journal Armed Forces India</i> <i>Med</i> , 73, 42-48, 2017	Checked, no additional relevant RCTs
Moss Alan, C., Morris, Eva, MacMathuna, Padraic, Palliative biliary stents for obstructing pancreatic carcinoma, <i>Cochrane Database of Systematic Reviews</i> , 2006	Systematic review. Reference list checked to ensure that all relevant articles have been included.
Moss, A. C., Morris, E., Leyden, J., MacMathuna, P., Do the benefits of metal stents justify the costs? A systematic review and meta-analysis of trials comparing endoscopic stents for malignant biliary obstruction, <i>European journal of gastroenterology & hepatology</i> , 19, 1119-24, 2007	Systematic review, including articles published prior to 1995. Reference list checked to ensure all relevant studies have been included.
Moss, A. C., Morris, E., Leyden, J., MacMathuna, P., Malignant distal biliary obstruction: A systematic review and meta-analysis of endoscopic and surgical bypass results, <i>Cancer Treatment Reviews</i> <i>Cancer Treat. Rev.</i> , 33, 213-221, 2007	Analysis includes some studies published pre-1995. Reference list searched to ensure all relevant references have been obtained.
Mullen, J. T., Lee, J. H., Gomez, H. F., Ross, W. A., Fukami, N., Wolff, R. A., Abdalla, E. K., Vauthey, J. N., Lee, J. E., Pisters, P. W., Evans, D. B., Pancreaticoduodenectomy after placement of endobiliary metal stents, <i>Journal of Gastrointestinal Surgery</i> <i>J Gastrointest Surg</i> , 9, 1094-104; discussion 1104-5, 2005	Comparative cohort study
Mumtaz, Khalid, Hamid, Saeed, Jafri, Wasim, Endoscopic retrograde cholangiopancreatography with or without stenting in patients with pancreaticobiliary malignancy, prior to surgery, <i>Cochrane Database of Systematic Reviews</i> , 2007	Systematic review. Reference list checked to ensure relevant studies have been included.
Murakami, Y., Uemura, K., Hashimoto, Y., Kondo, N., Nakagawa, N., Sasaki, H., Hatano, N., Kohmo, T., Sueda, T., Does Preoperative Biliary Drainage Compromise the Long-Term Survival of Patients With Pancreatic Head Carcinoma?, <i>Journal of Surgical Oncology</i> <i>J Surg Oncol</i> , 111, 270-276,	Comparative cohort study

Study	Reason for Exclusion
2015	
Nakahara, K., Okuse, C., Suetani, K., Michikawa, Y., Kobayashi, S., Otsubo, T., Itoh, F., Covered metal stenting for malignant lower biliary stricture with pancreatic duct obstruction: is endoscopic sphincterotomy needed?, Gastroenterology research & practice Gastroenterol Res Pract, 2013, 375613, 2013	Not RCT
Nakai, Y., Isayama, H., Kawabe, T., Tsujino, T., Yoshida, H., Sasaki, T., Tada, M., Arizumi, T., Yagioka, H., Kogure, H., Togawa, O., Ito, Y., Matsubara, S., Hirano, K., Sasahira, N., Omata, M., Efficacy and safety of metallic stents in patients with unresectable pancreatic cancer receiving gemcitabine, Pancreas Pancreas, 37, 405-10, 2008	Comparative cohort study
Nakamura, S., Ohara, H., Yamada, T., Nakazawa, T., Sano, H., Ando, H., Kajino, S., Hashimoto, T., Ando, T., Nomura, T., Joh, T., Okayama, Y., Uchida, A., Iida, M., Itoh, M., Efficacy of plastic tube stents without side holes for middle and lower biliary strictures, Journal of Clinical Gastroenterology, 34, 77-80, 2002	Comparative cohort study
Nakamura, T., Hirai, R., Kitagawa, M., Takehira, Y., Yamada, M., Tamakoshi, K., Kobayashi, Y., Nakamura, H., Kanamori, M., Treatment of common bile duct obstruction by pancreatic cancer using various stents: single-center experience, Cardiovascular & Interventional Radiology Cardiovasc Intervent Radiol, 25, 373-80, 2002	Comparative cohort study
Ngu, W., Jones, M., Neal, C. P., Dennison, A. R., Metcalfe, M. S., Garcea, G., Preoperative biliary drainage for distal biliary obstruction and post-operative infectious complications, ANZ Journal of Surgery ANZ J Surg, 83, 280-6, 2013	Comparative cohort study
Nikfarjam, M., Hadj, A. K., Muralidharan, V., Tebbutt, N., Fink, M. A., Jones, R. M., Starkey, G., Vaughan, R. B., Marshall, A. W., Christophi, C., Biliary stenting versus surgical bypass for palliation of periampullary malignancy, Indian Journal of Gastroenterology, 32, 82-9, 2013	Comparative cohort study
Ogura, T., Chiba, Y., Masuda, D., Kitano, M., Sano, T., Saori, O., Yamamoto, K., Imaoka, H., Imoto, A., Takeuchi, T., Fukunishi, S., Higuchi, K., Comparison of the clinical impact of endoscopic ultrasound-guided choledochoduodenostomy and hepaticogastrostomy for bile duct obstruction with duodenal obstruction.[Erratum appears in Endoscopy. 2016 Feb;48(2):163; PMID: 26418074], Endoscopy Endoscopy, 48, 156-63, 2016	Comparative cohort.
Ogura, T., Chiba, Y., Masuda, D., Kitano, M., Sano, T., Saori, O., Yamamoto, K., Imaoka, H., Imoto, A., Takeuchi, T., Fukunishi, S., Higuchi, K., Comparison of the clinical impact of endoscopic ultrasound-guided choledochoduodenostomy and hepaticogastrostomy for bile duct obstruction with duodenal obstruction, Endoscopy, 48, 156-163, 2016	Comparative cohort study
Paik, K. H., Kim, H. W., Lee, J. C., Hwang, J. H., Kim, J., Comparison of endoscopic and percutaneous biliary stenting in patients with pyloric obstruction, Journal of Gastroenterology and Hepatology (Australia), 31, 342-343, 2016	Conference abstract
Park, S. Y., Park, C. H., Cho, S. B., Lee, W. S., Kim, J. C., Cho, C. K., Joo, Y. E., Kim, H. S., Choi, S. K., Rew, J. S., What is appropriate procedure for preoperative biliary drainage in patients with obstructive jaundice awaiting	Comparative cohort study

Study	Reason for Exclusion
pancreaticoduodenectomy?, Surgical Laparoscopy, Endoscopy & Percutaneous Techniques Surg Laparosc Endosc Percutan Tech, 21, 344-8, 2011	
Patel, K., Teta, A., Sukharamwala, P., Thoens, J., Szuchmacher, M., DeVito, P., External pancreatic duct stent reduces pancreatic fistula: a meta-analysis and systematic review (Provisional abstract), Database of Abstracts of Reviews of Effects, 827-832, 2014	Only assesses outcomes for stent placement during surgery (as part of the operative procedure), not pre-operative stenting.
Perdue, D. G., Freeman, M. L., DiSario, J. A., Nelson, D. B., Fennerty, M. B., Lee, J. G., Overby, C. S., Ryan, M. E., Bochna, G. S., Snady, H. W., Moore, J. P., Ercp Outcome Study ERCOST Grp, Plastic versus self-expanding metallic stents for malignant hilar biliary obstruction, Journal of Clinical Gastroenterology, 42, 1040-1046, 2008	Comparative cohort study
Pereira-Lima, J. C., Jakobs, R., Maier, M., Benz, C., Kohler, B., Riemann, J. F., Endoscopic biliary stenting for the palliation of pancreatic cancer: results, survival predictive factors, and comparison of 10-French with 11.5-French gauge stents, American Journal of Gastroenterology, 91, 2179-84, 1996	Comparative cohort study
Pinol, V., Castells, A., Bordas, J. M., Real, M. I., Llach, J., Montana, X., Feu, F., Navarro, S., Percutaneous self-expanding metal stents versus endoscopic polyethylene endoprotheses for treating malignant biliary obstruction: randomized clinical trial, Radiology, 225, 27-34, 2002	<66% PC patients
Pisters, P. W., Hudec, W. A., Hess, K. R., Lee, J. E., Vauthey, J. N., Lahoti, S., Raijman, I., Evans, D. B., Effect of preoperative biliary decompression on pancreaticoduodenectomy-associated morbidity in 300 consecutive patients, Annals of Surgery, 234, 47-55, 2001	Comparative cohort study
Povoski, S. P., Karpeh, M. S., Conlon, K. C., Blumgart, L. H., Brennan, M. F., Association of preoperative biliary drainage with postoperative outcome following pancreaticoduodenectomy, Annals of surgery, 230, 131-142, 1999	Comparative cohort study
Povoski, S. P., Karpeh, M. S., Conlon, K. C., Blumgart, L. H., Brennan, M. F., Preoperative biliary drainage: Impact on intraoperative bile cultures and infectious morbidity and mortality after pancreaticoduodenectomy, Journal of Gastrointestinal Surgery, 3, 496-505, 1999	Comparative cohort study
Prat, F., Chapat, O., Ducot, B., Ponchon, T., Pelletier, G., Fritsch, J., Choury, A. D., Buffet, C., A randomized trial of endoscopic drainage methods for inoperable malignant strictures of the common bile duct, Gastrointestinal Endoscopy, 47, 1-7, 1998	<66% PC patients
Qiu, Y. D., Bai, J. L., Xu, F. G., Ding, Y. T., Effect of preoperative biliary drainage on malignant obstructive jaundice: a meta-analysis, World Journal of Gastroenterology, 17, 391-6, 2011	Systematic review. REference list checked but all studies were retrospective cohorts, no RCT data.
Raikar, G. V., Melin, M. M., Ressa, A., Lettieri, S. Z., Poterucha, J. J., Nagorney, D. M., Donohue, J. H., Cost-effective analysis of surgical palliation versus endoscopic stenting in the management of unresectable pancreatic cancer, Annals of surgical oncology, 3, 470-5, 1996	Comparative cohort study
Riditid, W., Rerknimitr, R., Janchai, A., Kongkam, P., Treeprasertsuk, S., Kullavanijaya, P., Outcome of second interventions for occluded metallic stents in patients with	Comparative cohort study

Study	Reason for Exclusion
malignant biliary obstruction, Surgical endoscopy, 24, 2216-20, 2010	
Saleem, A., Leggett, C. L., Murad, M. H., Baron, T. H., Meta-analysis of randomized trials comparing the patency of covered and uncovered self-expandable metal stents for palliation of distal malignant bile duct obstruction, Gastrointestinal Endoscopy, 74, 321-327.e1-3, 2011	Meta-analysis. Reference list checked to ensure that all relevant references are included.
Saleh, M. M., Norregaard, P., Jorgensen, H. L., Andersen, P. K., Matzen, P., Preoperative endoscopic stent placement before pancreaticoduodenectomy: a meta-analysis of the effect on morbidity and mortality, Gastrointestinal endoscopy, 56, 529-34, 2002	Systematic review. Reference list checked to ensure all relevant articles included. Only 2 RCTs included, and both were published pre-1995.
Sampaziotis, F., Elias, J., Gelson, W. T., Gimson, A. E., Griffiths, W. J., Woodward, J., Shariff, M., Macfarlane, B., King, A., Corbett, G., Leahy, A., A retrospective study assessing fully covered metal stents as first-line management for malignant biliary strictures, European journal of gastroenterology & hepatology, 27, 1347-53, 2015	Comparative cohort study
Santagati, A., Ceci, V., Donatelli, G., Pasqualini, M. J., Silvestri, F., Pitasi, F., Sportelli, G., Fiocca, F., Palliative treatment for malignant jaundice: Endoscopic vs surgical approach, European Review for Medical and Pharmacological Sciences, 7, 175-180, 2003	Comparative cohort study
Sauvanet, A., Boher, J. M., Paye, F., Bachellier, P., Sa Cunha, A., Le Treut, Y. P., Adham, M., Mabrut, J. Y., Chiche, L., Delpero, J. R., French Association of, Surgery, Severe Jaundice Increases Early Severe Morbidity and Decreases Long-Term Survival after Pancreaticoduodenectomy for Pancreatic Adenocarcinoma, Journal of the American College of SurgeonsJ Am Coll Surg, 221, 380-9, 2015	Comparative cohort study
Sawas, T., Al Halabi, S., Parsi, M. A., Vargo, J. J., Self-expandable metal stents versus plastic stents for malignant biliary obstruction: a meta-analysis, Gastrointestinal Endoscopy, 82, 256+, 2015	Meta-analysis. Reference list checked to ensure that all relevant articles have been included.
Saxena, P., Kumbhari, V., Zein, M. E., Khashab, M. A., Preoperative biliary drainage, Digestive EndoscopyDig, 27, 265-77, 2015	Narrative review article.
Scheufele, F., Schorn, S., Demir, I. E., Sargut, M., Tieftrunk, E., Calavrezos, L., Jager, C., Friess, H., Ceyhan, G. O., Preoperative biliary stenting versus operation first in jaundiced patients due to malignant lesions in the pancreatic head: A meta-analysis of current literature, SurgerySurgery, 30, 30, 2016	Checked, no additional RCTs
Schilling, D., Rink, G., Arnold, J. C., Benz, C., Adamek, H. E., Jakobs, R., Riemann, J. F., Prospective, randomized, single-center trial comparing 3 different 10F plastic stents in malignant mid and distal bile duct strictures, Gastrointestinal EndoscopyGastrointest Endosc, 58, 54-8, 2003	Plastic stent vs plastic stent
Schmassmann, A., von Gunten, E., Knuchel, J., Scheurer, U., Fehr, H. F., Halter, F., Wallstents versus plastic stents in malignant biliary obstruction: effects of stent patency of the first and second stent on patient compliance and survival, American Journal of Gastroenterology, 91, 654-9, 1996	Retrospective cohort study.
Scott, E. N., Garcea, G., Doucas, H., Steward, W. P., Dennison, A. R., Berry, D. P., Surgical bypass vs. endoscopic stenting for pancreatic ductal adenocarcinoma, HPBHpB, 11,	Comparative cohort study

Study	Reason for Exclusion
118-24, 2009	
Sewnath, M. E., Birjmohun, R. S., Rauws, E. A. J., Huibregtse, K., Obertop, H., Gouma, D. J., The effect of preoperative biliary drainage on postoperative complications after pancreaticoduodenectomy, <i>Journal of the American College of Surgeons</i> J Am Coll Surg, 192, 726-734, 2001	Comparative cohort study
Sewnath, M. E., Karsten, T. M., Prins, M. H., Rauws, E. J., Obertop, H., Gouma, D. J., A meta-analysis on the efficacy of preoperative biliary drainage for tumors causing obstructive jaundice, <i>Annals of Surgery</i> , 236, 17-27, 2002	Systematic review, predominantly including articles published prior to 1995. Reference list checked to ensure all relevant articles have been included.
Shah, R. J., Howell, D. A., Desilets, D. J., Sheth, S. G., Parsons, W. G., Okolo, P., 3rd, Lehman, G. A., Sherman, S., Baillie, J., Branch, M. S., Pleskow, D., Chuttani, R., Bosco, J. J., Multicenter randomized trial of the spiral Z-stent compared to the Wallstent for malignant biliary obstruction, <i>Gastrointestinal Endoscopy</i> , 57, 830-6, 2003	Compares 2 types of metal stent
Shah, T., Desai, S., Haque, M., Dakik, H., Fisher, D., Management of occluded metal stents in malignant biliary obstruction: similar outcomes with second metal stents compared to plastic stents, <i>Digestive Diseases & Sciences</i> Dig Dis Sci, 57, 2765-73, 2012	Incorrect population. Only compares management of individuals with existing stents that have occluded.
Sharaiha, R. Z., Khan, M. A., Kamal, F., Tyberg, A., Tombazzi, C. R., Ali, B., Tombazzi, C., Kahaleh, M., Efficacy and safety of EUS-guided biliary drainage in comparison with percutaneous biliary drainage when ERCP fails: a systematic review and meta-analysis, <i>Gastrointestinal Endoscopy</i> Gastrointest Endosc, 04, 04, 2017	Checked, no additional relevant RCTs
Sharaiha, R. Z., Kumta, N. A., Desai, A. P., DeFilippis, E. M., Gabr, M., Sarkisian, A. M., Salgado, S., Millman, J., Benvenuto, A., Cohen, M., Tyberg, A., Gaidhane, M., Kahaleh, M., Endoscopic ultrasound-guided biliary drainage versus percutaneous transhepatic biliary drainage: predictors of successful outcome in patients who fail endoscopic retrograde cholangiopancreatography, <i>Surgical Endoscopy and Other Interventional Techniques</i> , 30, 5500-5505, 2016	Comparative cohort study.
Sharaiha, R. Z., Natov, N., Glockenberg, K. S., Widmer, J., Gaidhane, M., Kahaleh, M., Comparison of metal stenting with radiofrequency ablation versus stenting alone for treating malignant biliary strictures: is there an added benefit?, <i>Digestive Diseases & Sciences</i> Dig Dis Sci, 59, 3099-102, 2014	Comparative cohort study
Shim, C. S., Lee, Y. H., Cho, Y. D., Bong, H. K., Kim, J. O., Cho, J. Y., Kim, Y. S., Lee, J. S., Lee, M. S., Hwang, S. G., Shin, K. M., Preliminary results of a new covered biliary metal stent for malignant biliary obstruction, <i>Endoscopy</i> , 30, 345-350, 1998	Comparative cohort study
Shimizu, S., Naitoh, I., Nakazawa, T., Hayashi, K., Miyabe, K., Kondo, H., Yoshida, M., Yamashita, H., Ohara, H., Joh, T., Feasibility of one-step endoscopic metal stenting for distal malignant biliary obstruction, <i>Journal of Hepato-biliary-pancreatic Sciences</i> J Hepatobiliary Pancreat Sci, 21, 219-225, 2014	Comparative cohort study
Singh, S., Sachdev, A. K., Chaudhary, A., Agarwal, A. K., Palliative surgical bypass for unresectable periampullary carcinoma, <i>Hepatobiliary & Pancreatic Diseases International</i> Hepatobiliary Pancreat Dis Int, 7, 308-312, 2008	Comparative cohort study

Study	Reason for Exclusion
Smith, R. A., Dajani, K., Dodd, S., Whelan, P., Raraty, M., Sutton, R., Campbell, F., Neoptolemos, J. P., Ghaneh, P., Preoperative resolution of jaundice following biliary stenting predicts more favourable early survival in resected pancreatic ductal adenocarcinoma, <i>Annals of Surgical Oncology</i> , 15, 3138-46, 2008	Comparative cohort study
Soderlund, C., Linder, S., Bergenzaun, P. E., Grape, T., Hakansson, H. O., Kilander, A., Lindell, G., Ljungman, M., Ohlin, B., Nielsen, J., Rudberg, C., Stotzer, P. O., Svartholm, E., Toth, E., Frozanpor, F., Nitinol versus steel partially covered self-expandable metal stent for malignant distal biliary obstruction: a randomized trial, <i>Endoscopy</i> , 46, 941-8, 2014	Compares 2 types of metal stent
Spanheimer, P. M., Cyr, A. R., Liao, J., Johlin, F. C., Hoshi, H., Howe, J. R., Mezhir, J. J., Complications and survival associated with operative procedures in patients with unresectable pancreatic head adenocarcinoma, <i>Journal of Surgical Oncology</i> <i>J Surg Oncol</i> , 109, 697-701, 2014	Comparative cohort study
Speer, A. G., Thursfield, V. J., Torn-Broers, Y., Jefford, M., Pancreatic cancer: surgical management and outcomes after 6 years of follow-up, <i>Medical Journal of Australia</i> <i>Med J Aust</i> , 196, 511-5, 2012	Comparative cohort study
Srivastava, S., Sikora, S. S., Kumar, A., Saxena, R., Kapoor, V. K., Outcome following pancreaticoduodenectomy in patients undergoing preoperative biliary drainage, <i>Digestive Surgery</i> <i>Dig Surg</i> , 18, 381-7, 2001	Comparative cohort study
Strom, T. J., Klapman, J. B., Springett, G. M., Meredith, K. L., Hoffe, S. E., Choi, J., Hodul, P., Malafa, M. P., Shridhar, R., Comparative long-term outcomes of upfront resected pancreatic cancer after preoperative biliary drainage, <i>Surgical Endoscopy and Other Interventional Techniques</i> , 29, 3273-3281, 2015	Comparative cohort study
Sugiyama, H., Tsuyuguchi, T., Sakai, Y., Mikata, R., Yasui, S., Watanabe, Y., Sakamoto, D., Nakamura, M., Sasaki, R., Senoo, J., Kusakabe, Y., Hayashi, M., Yokosuka, O., Current status of preoperative drainage for distal biliary obstruction, <i>World Journal of Hepatology</i> <i>World J Hepatol</i> , 7, 2171-6, 2015	Narrative review article.
Sugiyama, H., Tsuyuguchi, T., Sakai, Y., Nisikawa, T., Miyazaki, M., Yokosuka, O., Preoperative drainage for distal biliary obstruction: endoscopic stenting or nasobiliary drainage?, <i>Hepato-gastroenterology</i> , 60, 231-4, 2013	Comparative cohort study
Sun, C., Yan, G., Li, Z., Tzeng, C. M., A meta-analysis of the effect of preoperative biliary stenting on patients with obstructive jaundice, <i>Medicine</i> <i>Medicine (Baltimore)</i> , 93, e189, 2014	Systematic review. Predominantly includes cohort studies. Reference list checked to ensure all relevant articles have been included.
Sun, X. R., Tang, C. W., Lu, W. M., Xu, Y. Q., Feng, W. M., Rao, Y., Zheng, Y. Y., Endoscopic Biliary Stenting Versus Percutaneous Transhepatic Biliary Stenting in Advanced Malignant Biliary Obstruction: Cost-effectiveness Analysis, <i>Hepato-gastroenterology</i> , 61, 563-566, 2014	<66% PC patients
Takasawa, O., Fujita, N., Kobayashi, G., Noda, Y., Ito, K., Horaguchi, J., Endoscopic biliary drainage for patients with unresectable pancreatic cancer with obstructive jaundice who are to undergo gemcitabine chemotherapy, <i>World journal of gastroenterology</i> , 12, 7299-303, 2006	Comparative cohort study
Taylor, M. C., McLeod, R. S., Langer, B., Biliary stenting	Meta-analysis. Reference list

Study	Reason for Exclusion
versus bypass surgery for the palliation of malignant distal bile duct obstruction: a meta-analysis, Liver Transplantation, 6, 302-8, 2000	checked, but all included studies were published pre-1995.
Terruzzi, V., Comin, U., De Grazia, F., Toti, G. L., Zambelli, A., Beretta, S., Minoli, G., Prospective randomized trial comparing Tannenbaum Teflon and standard polyethylene stents in distal malignant biliary stenosis, Gastrointestinal Endoscopy, 51, 23-7, 2000	Plastic stent vs plastic stent
Timea, Bor, R., Fabian, A., Szabo, E., Farkas, K., Balint, A., Czako, L., Rutka, M., Szucs, M., Milassin, A., Molnar, T., Szepes, Z., Cost-effectiveness trial of self-expandable metal stents and plastic biliary stents in malignant biliary obstruction, Orvosi HetilapOrv Hetil, 157, 268-274, 2016	Comparative cohort study
Tol, J. A., Eshuis, W. J., Besselink, M. G., van Gulik, T. M., Busch, O. R., Gouma, D. J., Non-radical resection versus bypass procedure for pancreatic cancer - a consecutive series and systematic review, European Journal of Surgical Oncology, 41, 220-7, 2015	Systematic review (and cohort study). Reference list checked to ensure all relevant articles included.
Tol, J. A., van Hooft, J. E., Timmer, R., Kubben, F. J., van der Harst, E., de Hingh, I. H., Vleggaar, F. P., Molenaar, I. Q., Keulemans, Y. C., Boerma, D., Bruno, M. J., Schoon, E. J., van der Gaag, N. A., Besselink, M. G., Fockens, P., van Gulik, T. M., Rauws, E. A., Busch, O. R., Gouma, D. J., Metal or plastic stents for preoperative biliary drainage in resectable pancreatic cancer, Gut, 25, 25, 2015	Prospective cohort study, using historical control group derived from a previous RCT.
Tol, J. A., van Hooft, J. E., Timmer, R., Kubben, F. J., van der Harst, E., de Hingh, I. H., Vleggaar, F. P., Molenaar, I. Q., Keulemans, Y. C., Boerma, D., Bruno, M. J., Schoon, E. J., van der Gaag, N. A., Besselink, M. G., Fockens, P., van Gulik, T. M., Rauws, E. A., Busch, O. R., Gouma, D. J., Metal or plastic stents for preoperative biliary drainage in resectable pancreatic cancer, GutGut, 65, 1981-1987, 2016	Not RCT (compares cohort with results of RCT reported in van der Gaag 2010)
Tsai, Y. F., Shyu, J. F., Chen, T. H., Shyr, Y. M., Su, C. H., Effect of preoperative biliary drainage on surgical outcome after pancreaticoduodenectomy, Hepato-gastroenterology, 53, 823-827, 2006	Comparative cohort study
Tsuboi, T., Sasaki, T., Serikawa, M., Ishii, Y., Mouri, T., Shimizu, A., Kurihara, K., Tatsukawa, Y., Miyaki, E., Kawamura, R., Tsushima, K., Murakami, Y., Uemura, K., Chayama, K., Preoperative Biliary Drainage in Cases of Borderline Resectable Pancreatic Cancer Treated with Neoadjuvant Chemotherapy and Surgery, Gastroenterology Research and Practice, 2016 (no pagination), 2016	Comparative cohort study
Ueda, J., Kayashima, T., Mori, Y., Ohtsuka, T., Takahata, S., Nakamura, M., Tanaka, M., Hepaticocholecystojejunostomy as effective palliative biliary bypass for unresectable pancreatic cancer, Hepato-gastroenterology, 61, 197-202, 2014	Comparative cohort study
Uemura, K., Murakami, Y., Satoi, S., Sho, M., Motoi, F., Kawai, M., Matsumoto, I., Honda, G., Kurata, M., Yanagimoto, H., Nishiwada, S., Fukumoto, T., Unno, M., Yamaue, H., Impact of Preoperative Biliary Drainage on Long-Term Survival in Resected Pancreatic Ductal Adenocarcinoma: A Multicenter Observational Study, Annals of Surgical Oncology, 22, 1238-1246, 2015	Comparative cohort study.
Urbach, D. R., Bell, C. M., Swanstrom, L. L., Hansen, P. D., Cohort study of surgical bypass to the gallbladder or bile duct	Comparative cohort study

Study	Reason for Exclusion
for the palliation of jaundice due to pancreatic cancer, <i>Annals of Surgery</i> , 237, 86-93, 2003	
van Berkel, A. M., Huibregtse, I. L., Bergman, J. J., Rauws, E. A., Bruno, M. J., Huibregtse, K., A prospective randomized trial of Tannenbaum-type Teflon-coated stents versus polyethylene stents for distal malignant biliary obstruction, <i>European journal of gastroenterology & hepatology</i> , 16, 213-7, 2004	Plastic stent vs plastic stent
Van Heek, N. T., De Castro, S. M. M., Van Eijck, C. H., Van Geenen, R. C. I., Hesselink, E. J., Breslau, P. J., Tran, T. C. K., Kazemier, G., Visser, M. R. M., Busch, O. R. C., Obertop, H., Gouma, D. J., Neuhaus, P., Fernandez-Cruz, L., Russell, R. C. G., Johnson, A. G., Buchler, M. W., Morino, M., Gooszen, H. G., Fingerhut, A., The Need for a Prophylactic Gastrojejunostomy for Unresectable Periapillary Cancer: A Prospective Randomized Multicenter Trial with Special Focus on Assessment of Quality of Life, <i>Annals of surgery</i> , 238, 894-905, 2003	Compares outcomes for gastrojejunostomy versus no gastrojejunostomy, not procedures for biliary obstruction.
van Wagenveld, B. A., Coene, P. P., van Gulik, T. M., Rauws, E. A., Obertop, H., Gouma, D. J., Outcome of palliative biliary and gastric bypass surgery for pancreatic head carcinoma in 126 patients, <i>British Journal of Surgery</i> , 84, 1402-6, 1997	Comparative cohort study
Velanovich, V., Kheibek, T., Khan, M., Relationship of postoperative complications from preoperative biliary stents after pancreaticoduodenectomy. A new cohort analysis and meta-analysis of modern studies, <i>Jop: Journal of the Pancreas [Electronic Resource]</i> , 10, 24-9, 2009	Primary data from a retrospective cohort study. Meta-analysis only includes one RCT, published pre-1995.
Vihervaara, H., Gronroos, J. M., Hurme, S., Gullichsen, R., Salminen, P., Antireflux Versus Conventional Plastic Stent in Malignant Biliary Obstruction: A Prospective Randomized Study, <i>Journal of Laparoendoscopic and Advanced Surgical Techniques</i> , 27, 53-57, 2017	No relevant intervention
Wagh, M. S., de Bellis, M., Fogel, E. L., Frakes, J. T., Johanson, J. F., Qaseem, T., Howell, D. A., Lehman, G. A., Sherman, S., Multicenter Randomized Trial of 10-French versus 11.5-French Plastic Stents for Malignant Biliary Obstruction, <i>Diagnostic & Therapeutic Endoscopy</i> , 2013, 891915, 2013	Compares 2 types of plastic stent
Wang, K., Zhu, J., Xing, L., Wang, Y., Jin, Z., Li, Z., Assessment of efficacy and safety of EUS-guided biliary drainage: a systematic review, <i>Gastrointestinal Endoscopy</i> , 83, 1218-27, 2016	Includes cohort studies; only 1 RCT identified (Artifon et al 2015)
Wasan, S. M., Ross, W. A., Staerke, G. A., Lee, J. H., Use of expandable metallic biliary stents in resectable pancreatic cancer, <i>American Journal of Gastroenterology</i> , 100, 2056-61, 2005	Comparative cohort study
Weber, A., Mittermeyer, T., Wagenpfeil, S., Schmid, R. M., Prinz, C., Self-Expanding Metal Stents Versus Polyethylene Stents for Palliative Treatment in Patients With Advanced Pancreatic Cancer, <i>Pancreas</i> , 38, E7-E12, 2009	Retrospective cohort study.
Weston, B. R., Ross, W. A., Liu, J., Lee, J. H., Clinical outcomes of nitinol and stainless steel uncovered metal stents for malignant biliary strictures: Is there a difference?, <i>Gastrointestinal Endoscopy</i> , 72, 1195-1200, 2010	Comparative cohort study
Wilcox, C. M., Kim, H., Seay, T., Varadarajulu, S., Choice of plastic or metal stent for patients with jaundice with	Comparative cohort study

Study	Reason for Exclusion
pancreaticobiliary malignancy using simple clinical tools: a prospective evaluation, <i>BMJ Open Gastroenterology</i> <i>BMJ Open Gastroenterol</i> , 2, e000014, 2015	
Yang, M. J., Kim, J. H., Yoo, B. M., Hwang, J. C., Yoo, J. H., Lee, K. S., Kang, J. K., Kim, S. S., Lim, S. G., Shin, S. J., Cheong, J. Y., Lee, K. M., Lee, K. J., Cho, S. W., Partially covered versus uncovered self-expandable nitinol stents with anti-migration properties for the palliation of malignant distal biliary obstruction: A randomized controlled trial, <i>Scandinavian journal of gastroenterology</i> , 50, 1490-9, 2015	Although reports data for pancreatic cancer subgroup, sample not randomised by cancer type/<66% PC patients.
Yeung, Y. P., Yip, A. W. C., Palliation of Distal Malignant Biliary Obstruction: A Selective Approach, <i>International surgery</i> , 94, 67-73, 2009	Comparative cohort study
Yilmaz, S., Kirimlioglu, V., Katz, D. A., Kayaalp, C., Caglikulekci, M., Ara, C., Randomised clinical trial of two bypass operations for unresectable cancer of the pancreatic head, <i>The European journal of surgery = Acta chirurgica</i> , 167, 770-6, 2001	Compares two different procedures for gastric bypass. Both intervention groups received hepaticojejunostomy for relief of biliary obstruction.
Yoon, W. J., Lee, J. K., Lee, K. H., Lee, W. J., Ryu, J. K., Kim, Y. T., Yoon, Y. B., A comparison of covered and uncovered Wallstents for the management of distal malignant biliary obstruction, <i>Gastrointestinal Endoscopy</i> , 63, 996-1000, 2006	Retrospective cohort study.
Zhao, X. Q., Dong, J. H., Jiang, K., Huang, X. Q., Zhang, W. Z., Comparison of percutaneous transhepatic biliary drainage and endoscopic biliary drainage in the management of malignant biliary tract obstruction: a meta-analysis, <i>Digestive Endoscopy</i> <i>Dig</i> , 27, 137-45, 2015	Meta-analysis. Predominantly includes retrospective studies. Reference list checked to ensure relevant RCT data are included.
Zorron Pu, L., de Moura, E. G., Bernardo, W. M., Baracat, F. I., Mendonca, E. Q., Kondo, A., Luz, G. O., Furuya Junior, C. K., Artifon, E. L., Endoscopic stenting for inoperable malignant biliary obstruction: A systematic review and meta-analysis, <i>World journal of gastroenterology</i> , 21, 13374-85, 2015	Systematic review. Not all participants had pancreatic cancer. Reference list checked to ensure all relevant articles included.

G.11.1 Duodenal obstruction

Study	Reason for Exclusion
Andtbacka, R. H., Evans, D. B., Pisters, P. W., Surgical and endoscopic palliation for pancreatic cancer, <i>Minerva Chirurgica</i> <i>Minerva Chir</i> , 59, 123-36, 2004	No publication type: narrative review (checked for references)
Artifon, E. L., Sakai, P., Cunha, J. E., Dupont, A., Filho, F. M., Hondo, F. Y., Ishioka, S., Raju, G. S., Surgery or endoscopy for palliation of biliary obstruction due to metastatic pancreatic cancer, <i>The American journal of gastroenterology</i> , 101, 2031-7, 2006	No intervention/comparison of interest: patients with PC with distal biliary obstructions (no duodenal/gastric)
Bakkevold, K. E., Kambestad, B., Palliation of pancreatic cancer. A prospective multicentre study, <i>European journal of surgical oncology : the journal of the European Society of Surgical Oncology and the British Association of Surgical Oncology</i> , 21, 176-82, 1995	No intervention/comparison of interest: it evaluates patients with duodenal obstruction/stenosis only partially. Duodenal obstruction is not the main focus of this paper
Bartlett, E. K., Wachtel, H., Fraker, D. L., Vollmer, C. M., Drebin, J. A., Kelz, R. R., Karakousis, G. C., Roses, R. E., Surgical palliation for pancreatic malignancy: practice patterns and predictors of morbidity and mortality, <i>Journal of Gastrointestinal Surgery</i> <i>J Gastrointest Surg</i> , 18, 1292-8, 2014	No intervention/comparison of interest: it is a prospective observational study of retrospective database which does not focus on patients with duodenal obstruction/stenosis. Its focus is mainly on palliative bypass for

Study	Reason for Exclusion
	pancreatic cancer
<p>Beenen, E., van Roest, M. H., Sieders, E., Peeters, P. M., Porte, R. J., de Boer, M. T., de Jong, K. P., Staging laparoscopy in patients scheduled for pancreaticoduodenectomy minimizes hospitalization in the remaining life time when metastatic carcinoma is found, <i>European Journal of Surgical Oncology/Eur J Surg Oncol</i>, 40, 989-94, 2014</p>	No relevant population: periampullary adenocarcinoma
<p>Bornman, P. C., Harries-Jones, E. P., Tobias, R., Stiegmann, G., Terblanche, J., Prospective controlled trial of transhepatic biliary endoprosthesis versus bypass surgery for incurable carcinoma of head of pancreas, <i>Lancet (London, England)</i>, 1, 69-71, 1986</p>	No intervention/comparison of interest: it is a RCT which does not focus on patients with duodenal obstruction/stenosis. Its focus is mainly on biliary strictures
<p>Briggs, C. D., Irving, G. R., Cresswell, A., Peck, R., Lee, F., Peterson, M., Cameron, I. C., Percutaneous transhepatic insertion of self-expanding short metal stents for biliary obstruction before resection of pancreatic or duodenal malignancy proves to be safe and effective, <i>Surgical endoscopy</i>, 24, 567-71, 2010</p>	No intervention/comparison of interest: patients with PC with distal biliary obstructions (no duodenal/gastric)
<p>Castano, R., Lopes, T. L., Alvarez, O., Calvo, V., Luz, L. P., Artifon, E. L., Nitinol biliary stent versus surgery for palliation of distal malignant biliary obstruction, <i>Surgical endoscopy</i>, 24, 2092-8, 2010</p>	No intervention/comparison of interest: patients with PC with distal biliary obstructions (no duodenal/gastric)
<p>Cha, S. W., Park, E. T., Yoo, K. S., Lee, T. H., Jeong, S. W., Jang, J. Y., Cho, Y. D., Park, S. H., Kim, S. J., Prophylactic pancreatic stent placement after duodenal endoscopic SNARE papillectomy; Prospective, randomized multicenter study, <i>Gastrointestinal Endoscopy</i>, 79, Ab165, 2014</p>	No publication type: conference abstract
<p>Chakraborty, A., Selby, D., Gardiner, K., Myers, J., Moravan, V., Wright, F., Malignant bowel obstruction: natural history of a heterogeneous patient population followed prospectively over two years, <i>Journal of Pain & Symptom Management/J Pain Symptom Manage</i>, 41, 412-20, 2011</p>	No publication type: observational study, no control group (all patients received the same intervention)
<p>Cho, Y. K., Shin, J. H., Oh, S. Y., Significance of palliative GJJ for unresectable pancreatic head carcinoma, <i>Hepato-gastroenterology</i>, 55, 254-7, 2008</p>	No study design: this prospective comparative study evaluates the role of GJJ in patients with unresectable pancreatic cancer for preventing duodenal obstruction. But one Cochrane review (Gurusamy et al, 2013) including 2 RCTs (Lillemoe et al, 1999; and Van Heek et al, 2004) evaluates the same intervention (with higher quality of evidence)
<p>Clerveus, M., Morandeira-Rivas, A., Picazo-Yeste, J., Moreno-Sanz, C., Pancreaticogastrostomy versus pancreaticojejunostomy after pancreaticoduodenectomy: a systematic review and meta-analysis of randomized controlled trials (Provisional abstract), <i>Database of Abstracts of Reviews of Effects</i>, 1693-1704, 2014</p>	No intervention/comparison of interest: it is a review which does not focus on patients with duodenal obstruction/stenosis
<p>Del Piano, M., Ballare, M., Montino, F., Todesco, A., Orsello, M., Magnani, C., Garelo, E., Endoscopy or surgery for malignant GI outlet obstruction?, <i>Gastrointestinal Endoscopy</i>, 61, 421-6, 2005</p>	No publication type: letter to the editor
<p>Duffas, J. P., Suc, B., Msika, S., Fourtanier, G., Muscari, F., Hay, J. M., Fingerhut, A., Millat, B., Radovanovic, A., Fagniez, P. L., A controlled randomized multicenter trial of</p>	No intervention/comparison of interest: pancreatoduodenectomy, it not evaluates patients with duodenal

Study	Reason for Exclusion
pancreatogastrostomy or pancreatojejunostomy after pancreatoduodenectomy, American Journal of Surgery, 189, 720-729, 2005	obstruction/stenosis
Espat, N. J., Brennan, M. F., Conlon, K. C., Patients with laparoscopically staged unresectable pancreatic adenocarcinoma do not require subsequent surgical biliary or gastric bypass, Journal of the American College of Surgeons J Am Coll Surg, 188, 649-55; discussion 655-7, 1999	No intervention/comparison of interest: This prospective cohort study does not focus on patients with duodenal obstruction/stenosis (aims: laparoscopic staging for pancreatic cancer and the need for prophylactic bypass procedures in these patients)
Espinel, J., Sanz, O., Vivas, S., Jorquera, F., Munoz, F., Olcoz, J. L., Pinedo, E., Malignant gastrointestinal obstruction: endoscopic stenting versus surgical palliation, Surgical Endoscopy and Other Interventional Techniques, 20, 1083-1087, 2006	No relevant population: this retrospective study included 41 patients with mix primary cancers (Pancreas 26 - Gastric 9 - Duodenum 3 and Vater papilla 2 Gallbladder 2 Biliary tract 2)
Fernández-Cruz, L., Cosa, R., Blanco, L., López-Boado, M. A., Astudillo, E., Pancreatogastrostomy with gastric partition after pylorus-preserving pancreatoduodenectomy versus conventional pancreatojejunostomy: a prospective randomized study, Annals of surgery, 248, 930-8, 2008	No relevant population: it not evaluates patients with duodenal obstruction/stenosis
Gaidos, J. K., Draganov, P. V., Treatment of malignant gastric outlet obstruction with endoscopically placed self-expandable metal stents, World journal of gastroenterology, 15, 4365-71, 2009	No publication type: narrative review (checked for references)
Gerke, H., White, R., Byrne, M. F., Stiffler, H., Mitchell, R. M., Hurwitz, H. I., Morse, M. A., Branch, M. S., Jowell, P. S., Czito, B., Clary, B., Pappas, T. N., Tyler, D. S., Baillie, J., Complications of pancreaticoduodenectomy after neoadjuvant chemoradiation in patients with and without preoperative biliary drainage, Digestive and liver disease, 36, 412-418, 2004	No relevant population: it not evaluates patients with duodenal obstruction/stenosis
Hamada, T., Nakai, Y., Isayama, H., Sasaki, T., Kogure, H., Kawakubo, K., Sasahira, N., Yamamoto, N., Togawa, O., Mizuno, S., Ito, Y., Hirano, K., Toda, N., Tada, M., Koike, K., Duodenal metal stent placement is a risk factor for biliary metal stent dysfunction: an analysis using a time-dependent covariate, Surgical Endoscopy and Other Interventional Techniques, 27, 1243-1248, 2013	No intervention/comparison of interest: this was a retrospective cohort study to evaluate the effect of duodenal self-expandable metal stents (SEMS) on biliary SEMS (as risk factor)
Harewood, G. C., Pochron, N. L., Gostout, C. J., Prospective, randomized, controlled trial of prophylactic pancreatic stent placement for endoscopic snare excision of the duodenal ampulla, Gastrointestinal endoscopy, 62, 367-70, 2005	No relevant population: it is a RCT of 19 patients with pancreatitis
Holt, A. P., Patel, M., Ahmed, M. M., Palliation of patients with malignant gastroduodenal obstruction with self-expanding metallic stents: the treatment of choice?, Gastrointestinal Endoscopy, 60, 1010-7, 2004	Palliation of patients with malignant gastroduodenal obstruction with self-expanding metallic stents: the treatment of choice?
Huser, N., Michalski, C. W., Schuster, T., Friess, H., Kleeff, J., Systematic review and meta-analysis of prophylactic gastroenterostomy for unresectable advanced pancreatic cancer, British Journal of Surgery, 96, 711-9, 2009	No additional RCTs/outcomes. More recent Cochrane review (Gurusamy et al, 2013) used.
Ik Chang, W., Yun, H. S., Lee, J. H., Lee, J. K., Lee, K. T., Lee, K. H., Is prophylactic pancreatic stent placement for endoscopic duodenal ampullectomy necessary?, Gastroenterology, 142, S315, 2012	No publication type: conference abstract
Isayama, H., Sasaki, T., Nakai, Y., Togawa, O., Kogure, H.,	No relevant population: this

Study	Reason for Exclusion
Sasahira, N., Yashima, Y., Kawakubo, K., Ito, Y., Hirano, K., Tsujino, T., Toda, N., Tada, M., Omata, M., Koike, K., Management of malignant gastric outlet obstruction with a modified triple-layer covered metal stent, <i>Gastrointestinal Endoscopy</i> , 75, 757-63, 2012	prospective cohort study includes 26 patients with pancreatic carcinoma, 14 with gastric carcinoma, 9 with cholangiocarcinoma
Isayama, H., Yasuda, I., Ryozaawa, S., Maguchi, H., Igarashi, Y., Matsuyama, Y., Katanuma, A., Hasebe, O., Irisawa, A., Itoi, T., Mukai, H., Arisaka, Y., Okushima, K., Uno, K., Kida, M., Tamada, K., Results of a Japanese multicenter, randomized trial of endoscopic stenting for non-resectable pancreatic head cancer (JM-test): Covered Wallstent versus DoubleLayer stent, <i>Digestive EndoscopyDig</i> , 23, 310-5, 2011	No intervention/comparison of interest: patients with PC with distal biliary obstructions (no duodenal/gastric)
Issaka, R. B., Shapiro, D. M., Parikh, N. D., Mulcahy, M. F., Komanduri, S., Martin, J. A., Keswani, R. N., Palliative venting percutaneous endoscopic gastrostomy tube is safe and effective in patients with malignant obstruction, <i>Surgical endoscopy</i> , 28, 1668-73, 2014	No publication type: observational study, no control group (all patients received the same intervention)
Jeurnink, S. M., Steyerberg, E. W., Hof, G. V., Van Eijck, C. H. J., Kuipers, E. J., Siersema, P. D., GJJ versus Stent placement in patients with malignant gastric outlet obstruction: A comparison in 95 patients, <i>Journal of Surgical OncologyJ Surg Oncol</i> , 96, 389-396, 2007	No relevant population: this retrospective study included 410 patients with mix primary cancers (Pancreas 297 - Biliary tract 73 - Other 40)
Johnsson, E., Thune, A., Liedman, B., Palliation of malignant gastroduodenal obstruction with open surgical bypass or endoscopic stenting: Clinical outcome and health economic evaluation, <i>World Journal of SurgeryWorld J Surg</i> , 28, 812-817, 2004	No relevant population: this retrospective study included 36 patients with mix primary cancers (Pancreas only 7)
Kamoda, Y., Fujino, Y., Matsumoto, I., Shinzeki, M., Sakai, T., Kuroda, Y., Usefulness of performing a pancreaticojejunostomy with an internal stent after a pancreatoduodenectomy, <i>Surgery Today</i> , 38, 524-8, 2008	No relevant population: it not evaluates patients with duodenal obstruction/stenosis
Kaw, M., Singh, S., Gagneja, H., Azad, P., Role of self-expandable metal stents in the palliation of malignant duodenal obstruction, <i>Surgical endoscopy</i> , 17, 646-50, 2003	No publication type: observational study, no control group (all patients received the same intervention)
Kaw, M., Singh, S., Gagneja, H., Clinical outcome of simultaneous self-expandable metal stents for palliation of malignant biliary and duodenal obstruction, <i>Surgical endoscopy</i> , 17, 457-61, 2003	No publication type: observational study, no control group (all patients received the same intervention)
Kim, K. O., Kim, T. N., Lee, H. C., Effectiveness of combined biliary and duodenal stenting in patients with malignant biliary and duodenal obstruction, <i>Scandinavian journal of gastroenterology</i> , 47, 962-7, 2012	No publication type: observational study, no control group (all patients received the same intervention)
Kubota, K., Sato, T., Watanabe, S., Hosono, K., Kobayashi, N., Mori, R., Taniguchi, K., Matsuyama, R., Endo, I., Nakajima, A., Covered self-expandable metal stent deployment promises safe neoadjuvant chemoradiation therapy in patients with borderline resectable pancreatic head cancer, <i>Digestive EndoscopyDig</i> , 26, 77-86, 2014	No intervention/comparison of interest: patients with PC with distal biliary obstructions (no duodenal/gastric)
Kuruba, R., Wig, J. D., Kochhar, R., Mittal, B. R., Behera, A., Gastric emptying scintigraphy in carcinoma of the pancreas, <i>Annals of the College of Surgeons of Hong Kong</i> , 5, 14-18, 2001	No relevant population: biliary obstruction (no duodenal/gastric outlet obstruction)
Lee, B. H., Choe, D. H., Lee, J. H., Kim, K. H., Chin, S. Y., Metallic stents in malignant biliary obstruction: prospective long-term clinical results, <i>AJR. American journal of</i>	No publication type: observational study, no control group (all patients received the same intervention)

Study	Reason for Exclusion
roentgenology, 168, 741-5, 1997	
Lee, Y. N., Moon, J. H., Choi, H. J., Choi, M. H., Lee, T. H., Cha, S. W., Cho, Y. D., Choi, S. Y., Lee, H. K., Park, S. H., Effectiveness of a newly designed antireflux valve metal stent to reduce duodenobiliary reflux in patients with unresectable distal malignant biliary obstruction: A randomized, controlled pilot study (with videos), <i>Gastrointestinal Endoscopy</i> , 83, 404-412, 2016	No relevant population: Patients with jaundice due to incurable distal malignant
Ly, J., O'Grady, G., Mittal, A., Plank, L., Windsor, J. A., A systematic review of methods to palliate malignant gastric outlet obstruction, <i>Surgical Endoscopy and Other Interventional Techniques</i> , 24, 290-297, 2010	No relevant population: it is a meta-analysis of 254 patients with mixed health conditions/tumours (Pancreas 240- Stomach 94-Duodenum 20- Gallbladder/biliary tract 41- Metastases 29-Other* 28). References of included studies have been checked
Maetani, I., Tada, T., Ukita, T., Inoue, H., Sakai, Y., Nagao, J., Comparison of duodenal stent placement with surgical GJJ for palliation in patients with duodenal obstructions caused by pancreaticobiliary malignancies, <i>Endoscopy</i> , 36, 73-8, 2004	No relevant population: only 26 out of the 39 included patients had a diagnosis of PC
Malik, A., Razaque Shaikh, A., Ara Shaikh, G., Validity of surgical bypass in un-resectable pancreatic cancer, <i>Rawal Medical Journal</i> , 38, 152-155, 2013	No publication type: observational study, no control group (all patients received the same intervention)
Marson, F., Sakai, P., Hashiba, K., Artifon, E. L., Eus-guided choledochoduodenostomy or hepaticogastrostomy to malignant distal biliary obstruction: A prospective comparative trial, <i>Gastrointestinal Endoscopy</i> , 1), AB370, 2013	No publication type: conference abstract
Mortenson, M. M., Ho, H. S., Bold, R. J., An analysis of cost and clinical outcome in palliation for advanced pancreatic cancer, <i>American Journal of Surgery</i> , 190, 406-11, 2005	No study design: retrospective descriptive study
Mukherjee, S., Kocher, H. M., Hutchins, R. R., Bhattacharya, S., Abraham, A. T., Palliative surgical bypass for pancreatic and peri-ampullary cancers, <i>Journal of Gastrointestinal CancerJ Gastrointest Cancer</i> , 38, 102-7, 2007	This is a not comparative study (retrospective analysis of short term outcomes and survival for all PC patients undergoing surgical palliative bypass procedures)
Muscari, F., Suc, B., Kirzin, S., Hay, J. M., Fourtanier, G., Fingerhut, A., Sastre, B., Chipponi, J., Fagniez, P. L., Radovanovic, A., Risk factors for mortality and intra-abdominal complications after pancreatoduodenectomy: multivariate analysis in 300 patients, <i>Surgery</i> , 139, 591-8, 2006	No relevant population: it not evaluates patients with duodenal obstruction/stenosis
Nakai, Y., Isayama, H., Togawa, O., Kogure, H., Tsujino, T., Yagioka, H., Yashima, Y., Sasaki, T., Ito, Y., Matsubara, S., Hirano, K., Sasahira, N., Toda, N., Tada, M., Kawabe, T., Omata, M., Koike, K., New method of covered wallstents for distal malignant biliary obstruction to reduce early stent-related complications based on characteristics, <i>Digestive EndoscopyDig</i> , 23, 49-55, 2011	No intervention/comparison of interest: patients with PC with distal biliary obstructions (no duodenal/gastric)
Nassif, T., Prat, F., Meduri, B., Fritsch, J., Choury, A. D., Dumont, J. L., Auroux, J., Desaint, B., Boboc, B., Ponsot, P., Cervoni, J. P., Endoscopic palliation of malignant gastric outlet obstruction using self-expandable metallic stents: Results of a multicenter study, <i>Endoscopy</i> , 35, 483-489, 2003	No publication type: observational study, no control group (all patients received the same intervention)
Qureshi, S., Ghazanfar, S., Hafeez, A. B., Taj, M. A., Niaz,	No publication type: observational

Study	Reason for Exclusion
S. K., Quraishy, M. S., Malignant pyloro-duodenal obstruction: role of self expandable metallic stents, JPMA - Journal of the Pakistan Medical Association JPMA J Pak Med Assoc, 64, 16-9, 2014	study, no control group (all patients received the same intervention)
Reddy, C. A., Hasak, S., Gaddam, S., Edmundowicz, S. A., Mullady, D., Murad, F., Kushnir, V. M., Outcomes of enteral stent placement to relieve duodenal obstruction caused by pancreatico-biliary cancers: Results from a large retrospective cohort, Gastrointestinal Endoscopy, 1), AB465-AB466, 2015	no publication type: conference abstract
Rudolph, H. U., Post, S., Schluter, M., Seitz, U., Soehendra, N., Kahler, G., Malignant gastroduodenal obstruction: Retrospective comparison of endoscopic and surgical palliative therapy, Scandinavian journal of gastroenterology, 46, 583-590, 2011	No relevant population: only 34 out of the 87 included patients had a diagnosis of PC
Shyr, Y. M., Su, C. H., Wu, C. W., Lui, W. Y., Prospective study of gastric outlet obstruction in unresectable periampullary adenocarcinoma, World Journal of Surgery World J Surg, 24, 60-4; discussion 64-5, 2000	No study design: this prospective comparative study evaluates the role of GJJ in patients with unresectable pancreatic cancer for preventing duodenal obstruction. But one Cochrane review (Gurusamy et al, 2013) including 2 RCTs (Lillemoe et al, 1999; and Van Heek et al, 2004) evaluates the same intervention (with higher quality of evidence)
Siddiqui, A., Spechler, S. J., Huerta, S., Surgical bypass versus endoscopic stenting for malignant gastroduodenal obstruction: a decision analysis, Digestive Diseases & Sciences Dig Dis Sci, 52, 276-81, 2007	No study design: this was a prospective observational study employing a decision model analysis to compare the clinical outcomes and costs among ES, OGJ, and LGJ in patients who present with gastroduodenal obstruction from advanced upper gastrointestinal tract cancer.
Tang, C. N., Siu, W. T., Ha, J. P., Li, M. K., Endo-laparoscopic approach in the management of obstructive jaundice and malignant gastric outflow obstruction, Hepato-gastroenterology, 52, 128-34, 2005	No study design: this retrospective comparative study evaluates the role of GJJ in patients with unresectable pancreatic cancer for preventing duodenal obstruction. But one Cochrane review (Gurusamy et al, 2013) including 2 RCTs (Lillemoe et al, 1999; and Van Heek et al, 2004) evaluates the same intervention (with higher quality of evidence)
Tonozuka, R., Itoi, T., Sofuni, A., Itokawa, F., Moriyasu, F., Endoscopic double stenting for the treatment of malignant biliary and duodenal obstruction due to pancreatic cancer, Digestive Endoscopy Dig, 25 Suppl 2, 100-8, 2013	No publication type: observational study, no control group (all patients received the same intervention)
Topal, B., Fiews, S., Aerts, R., Weerts, J., Feryn, T., Roeyen, G., Bertrand, C., Hubert, C., Janssens, M., Closset, J., Belgian Section of, Hepatobiliary, Pancreatic, Surgery, Pancreaticojejunostomy versus pancreaticogastrostomy reconstruction after pancreaticoduodenectomy for pancreatic or periampullary tumours: a multicentre randomised trial, Lancet Oncology, 14, 655-62, 2013	No intervention/comparison of interest: pancreatoduodenectomy, it not evaluates patients with duodenal obstruction/stenosis
Tringali, A., Didden, P., Repici, A., Spaander, M., Bourke, M. J., Williams, S. J., Spicak, J., Drastich, P., Mutignani, M., Perri, V., Roy, A., Johnston, K., Costamagna, G.,	No publication type: observational study, no control group (all patients

Study	Reason for Exclusion
Endoscopic treatment of malignant gastric and duodenal strictures: A prospective, multicenter study, <i>Gastrointestinal Endoscopy</i> , 79, 66-75, 2014	received the same intervention)
Ung, K. A., Stotzer, P. O., Nilsson, A., Gustavsson, M. L., Johnsson, E., Covered and uncovered self-expandable metallic Hanarostents are equally efficacious in the drainage of extrahepatic malignant strictures. Results of a double-blind randomized study, <i>Scandinavian journal of gastroenterology</i> , 48, 459-65, 2013	No relevant population: Patients with jaundice due to incurable distal malignant biliary obstruction (no duodenal / gastric outlet obstruction)
Yilmaz, S., Kirimlioglu, V., Katz, D. A., Kayaalp, C., Caglikulekci, M., Ara, C., Randomised clinical trial of two bypass operations for unresectable cancer of the pancreatic head, <i>The European journal of surgery = Acta chirurgica</i> , 167, 770-6, 2001	No relevant population: chronic pancreatitis patients
Yim, H. B., Jacobson, B. C., Saltzman, J. R., Johannes, R. S., Bounds, B. C., Lee, J. H., Shields, S. J., Ruymann, F. W., Van Dam, J., Carr-Locke, D. L., Clinical outcome of the use of enteral stents for palliation of patients with malignant upper GI obstruction, <i>Gastrointestinal Endoscopy</i> , 53, 329-32, 2001	No publication type: observational study, no control group (all patients received the same intervention)
Zurstrassen, C. E., Santos, A. C. B., Tyng, C. J., Matushita, J. P., Coimbra, F. J., Diniz, A. L., Ribeiro, H. S., Costa, W. L., Lima, D. C., Percutaneous use of ePTFE/FEP-covered metallic stent for palliation of malignant biliary obstruction, <i>Minimally Invasive Therapy and Allied Technologies</i> , 23, 366-373, 2014	No publication type: observational study, no control group (all patients received the same intervention)

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G.12.2 Neo-adjuvant treatment

Study reference	Reason for Exclusion
Allendorf JD, Lauerman M, Bill A, DiGiorgi M, Goetz N, et al. Neoadjuvant chemotherapy and radiation for patients with locally unresectable PC: feasibility, efficacy, and survival. <i>J Gastrointest Surg</i> . 2008 Jan;12(1):91-100.	NO POPULATION - patients with unresectable PC
Andriulli A, Festa V, Botteri E, Valvano MR, Koch M, et al. Neoadjuvant/preoperative GEM for patients with localized PC: a meta-analysis of prospective studies. <i>Ann Surg Oncol</i> . 2012 May;19(5):1644-62.	MORE THAN ONE PICO CRITERIA - include 13 studies of chemotherapy +/-radiotherapy - without the relevant "surgery comparison", and the participants includes both borderline resectable and unresectable patients – the results are not stratified (references have been checked)
Araujo RL, Gaujoux S, Huguet F, Gonen M, D'Angelica MI, et al. Does pre-operative CRT for initially unresectable or borderline resectable PC increase post-operative morbidity? A case-matched analysis. <i>HPB (Oxford)</i> . 2013 Aug;15(8):574-80.	No population: this case-matches analysis compares 29 patients with initially locally unresectable/ borderline PC who underwent a resection with 29 patients with initially resectable tumours - the results are not stratified
Assifi MM, Lu X, Eibl G, Reber HA, Li G, et al. Neoadjuvant therapy in PC: a meta-analysis of phase II trials. <i>Surgery</i> . 2011 Sep;150(3):466-73.	NO POPULATION - this meta-analysis doesn't compare/evaluate a neoadjuvant treatment to surgery, and the

Study reference	Reason for Exclusion
	analysis grouped patients with borderline disease and those patients with unresectable disease together into 1 group.
Barbour A., O'Rourke N., Chandrasegaram M. (2015) A multicenter, phase II trial of preoperative GEM and nab-paclitaxel for resectable pancreas cancer: the AGITG GAP Study. <i>J Clin Oncol</i> 33: 4115.	NO STUDY DESIGN – conference paper – not enough information to be appraised
Chua TC, Saxena A. Preoperative CRT followed by surgical resection for resectable PC: a review of current results. <i>Surg Oncol</i> . 2011 Dec;20(4):e161-8.	NO DATA ANALYSIS - include 17 studies of neoadjuvant CRT - without the relevant "surgery comparison", without performing a formal meta-analysis of the individual studies (references have been checked)
Coveler, A.L., Venu Gopal Pillarisetty, Grace Gyurkey et al. A phase II study of perioperative therapy for patients with resectable and borderline-resectable PC. <i>J. Clin. Oncol.</i> 2014;32:5s (abstr 4120).	NO STUDY DESIGN – conference paper
Gillen S, Schuster T, Meyer Zum Büschenfelde C, Friess H, Kleeff J. Preoperative/neoadjuvant therapy in PC: a systematic review and meta-analysis of response and resection percentages. <i>PLoS Med</i> . 2010 Apr 20;7(4):e1000267.	NO POPULATION - This meta-analysis includes both people with locally non-resectable (n=56 studies) and resectable tumours (n=35)- the analysis grouped patients with borderline disease and those patients with unresectable disease together into 1 group. Furthermore, not only perspective studies, but case reports and retrospective (non-comparative) studies were included in this meta-analysis, which are subjective to confounding and bias errors.
Hackert T, Sachsenmaier M, Hinz U, Schneider L, Michalski CW, et al. Locally Advanced PC: Neoadjuvant Therapy With Folfirinox Results in Resectability in 60% of the Patients. <i>Ann Surg</i> . 2016 Sep;264(3):457-63.	No population: In total, 575 patients with locally advanced PC (including unresectable and borderline resectable- n=31) were enrolled in this prospective comparative study – As stated in the article, no resectable tumours were treated by neoadjuvant therapy.
Heinrich S, Pestalozzi BC, Schäfer M, Weber A, Bauerfeind P, et al. Prospective phase II trial of neoadjuvant chemotherapy with GEM and cisplatin for resectable adenocarcinoma of the pancreatic head. <i>J Clin Oncol</i> . 2008 May 20;26(15):2526-31.	NO STUDY DESIGN - phase 2 single-arm trial of 28 pts (sample size less than 50)
Heinrich S, Schäfer M, Weber A, Hany TF, Bhure U, et al. Neoadjuvant chemotherapy generates a significant tumor response in resectable PC without increasing morbidity: results of a prospective phase II trial. <i>Ann Surg</i> . 2008 Dec;248(6):1014-22.	NO STUDY DESIGN - phase 2 single-arm trial of 28 pts (sample size less than 50)
Kang CM, Chung YE, Park JY, Sung JS, Hwang HK, et al. Potential contribution of preoperative neoadjuvant concurrent CRT therapy on margin-negative resection in borderline resectable PC. <i>J Gastrointest Surg</i> . 2012 Mar;16(3):509-17.	NO STUDY DESIGN - phase 2 single-arm trial of 35 pts were enrolled (sample size less than 50)
Landry J, Catalano PJ, Staley C, Harris W, Hoffman J, et al.	NO INTERVENTION - this study

Study reference	Reason for Exclusion
Randomized phase II study of GEM plus radiotherapy versus GEM, 5-fluorouracil, and cisplatin followed by radiotherapy and 5-fluorouracil for patients with locally advanced, potentially resectable PC. <i>J Surg Oncol.</i> 2010 Jun 1;101(7):587-92.	compares two neoadjuvant GEM-based CRT regimens in patients with borderline resectable PC
Laurence JM, Tran PD, Morarji K, Eslick GD, Lam VW, et al. A systematic review and meta-analysis of survival and surgical outcomes following neoadjuvant CRT for PC. <i>J Gastrointest Surg.</i> 2011 Nov;15(11):2059-69.	MORE THAN ONE PICO CRITERIA - include 19 cohort studies of neoadjuvant CRT - without the relevant "surgery comparison", and the participants includes both resectable and unresectable patients (references have been checked)
Le Scodan R, Mornex F, Partensky C, Mercier C, Valette PJ, et al. Histopathological response to preoperative CRT for resectable PC: the French Phase II FFCD 9704-SFRO Trial. <i>Am J Clin Oncol.</i> 2008 Dec;31(6):545-52.	NO STUDY DESIGN - phase 2 single-arm trial of 41 pts (sample size less than 50)
Masui T, Doi R, Kawaguchi Y, Sato A, Nakano K, et al. Concurrent GEM+S-1 neoadjuvant chemotherapy contributes to the improved survival of patients with small borderline-resectable PC tumors. <i>Surg Today.</i> 2016 Feb 9;	NO STUDY DESIGN single-arm trial of 18 pts (sample size less than 50)
Mornex F, Girard N, Scoazec JY, Bossard N, Ychou M, et al. Feasibility of preoperative combined radiation therapy and chemotherapy with 5-fluorouracil and cisplatin in potentially resectable PC: The French SFRO-FFCD 97-04 Phase II trial. <i>Int J Radiat Oncol Biol Phys.</i> 2006 Aug 1;65(5):1471-8.	NO STUDY DESIGN - phase 2 single-arm trial of 38 pts (sample size less than 50)
Nagakawa Y, Hosokawa Y, Nakayama H, et al. (2017) A phase II trial of neoadjuvant chemoradiotherapy with intensity-modulated radiotherapy combined with gemcitabine and S-1 for borderline-resectable pancreatic cancer with arterial involvement. <i>Cancer Chemotherapy Pharmacology</i> 79(5):951-957	NO STUDY DESIGN single-arm trial of 18 pts (sample size less than 50)
Palmer DH, Stocken DD, Hewitt H, Markham CE, Hassan AB, et al. A randomized phase 2 trial of neoadjuvant chemotherapy in resectable PC: GEM alone versus GEM combined with cisplatin. <i>Ann Surg Oncol.</i> 2007 Jul;14(7):2088-96.	NO INTERVENTION/COMPARISON - this study compares GEM-based chemotherapy regimens
Petrelli F, Coinu A, Borgonovo K, Cabiddu M, Ghilardi M, et al. FOLFIRINOX-based neoadjuvant therapy in borderline resectable or unresectable PC: a meta-analytical review of published studies. <i>Pancreas.</i> 2015 May;44(4):515-21.	NO POPULATION - include 13 studies of chemotherapy + surgery versus surgery alone, but the participants includes both borderline resectable and unresectable patients – the results are not stratified (references have been checked)
Sahora K, Schindl M, Kuehrer I, Eisenhut A, Werba G, et al. A phase II trial of two durations of Bevacizumab added to neoadjuvant GEM for borderline and locally advanced PC. <i>Anticancer Res.</i> 2014 May;34(5):2377-84.	NO INTERVENTION - phase II trial comparing adding the anti-vascular endothelial growth factor (VEGF) bevacizumab to GEM neoadjuvant chemotherapy for patients with borderline and unresectable non-metastatic PC
Satoi S, Toyokawa H, Yanagimoto H, Yamamoto T, Kamata M, et al. Neo-adjuvant CRT therapy using S-1 followed by surgical resection in patients with PC. <i>J Gastrointest Surg.</i> 2012 Apr;16(4):784-92.	No population: the study population includes 103 patients with potentially or borderline resectable or unresectable PC allocated in two groups (neo-adjuvant and adjuvant group) - the results are not stratified

Study reference	Reason for Exclusion
Schorn S, Demir IE, Reyes CM, Saricaoglu C, Samm N, Schirren R, Tieftrunk E, Hartmann D, Friess H, Ceyhan GO. The impact of neoadjuvant therapy on the histopathological features of pancreatic ductal adenocarcinoma - A systematic review and meta-analysis. <i>Cancer Treat Rev.</i> 2017;55:96-106	This review have been checked for references and no further evidence was included
Schorn S, Demir EI, Friess H et al. Does neoadjuvant therapy affect the occurrence of local recurrence and metastasis in pancreatic cancer? – A systematic review and meta-analysis. <i>Pancreatology.</i> 2016 16(3); S92	NO STUDY DESIGN – conference paper – not enough information to be appraised
Stein SM, James ES, Deng Y, Cong X, Kortmansky JS, et al. Final analysis of a phase II study of modified FOLFIRINOX in locally advanced and metastatic PC. <i>Br J Cancer.</i> 2016 Mar 29;114(7):737-43.	No population: In total, 77 patients with locally advanced (including unresectable and borderline resectable- n=31) and metastatic (n=44) PC were enrolled in this phase II open label single arm study - the results are not stratified
Tachezy M, Gebauer F, Petersen C, Arnold D, Trepel M, et al. Sequential neoadjuvant CRT (CRT) followed by curative surgery vs primary surgery alone for resectable, non-metastasized PC: NEOPA- a randomized multicenter phase III study (NCT01900327, DRKS00003893, ISRCTN82191749). <i>BMC Cancer.</i> 2014 Jun 7;14:411.	Research protocol
Talamonti MS, Small W Jr, Mulcahy MF, Wayne JD, Attaluri V, et al. A multi-institutional phase II trial of preoperative full-dose GEM and concurrent radiation for patients with potentially resectable pancreatic carcinoma. <i>Ann Surg Oncol.</i> 2006 Feb;13(2):150-8. PubMed	NO STUDY DESIGN - phase 2 single-arm trial of 20 pts (sample size less than 50)
Uggeri F, Caprotti R, De Grate L, Crippa S, Nobili C, et al. Short-term preoperative IL-2 immunotherapy in operable PC: a randomized study. <i>Hepatogastroenterology.</i> 2009 May-Jun;56(91-92):861-5.	NO INTERVENTION - this trial investigates the effectiveness of preoperative interleukin-2 administration to improve lymphocyte counts' postoperative recovery in PC
van Tienhoven G, Gouma DJ, Richel DJ. Neoadjuvant CRT has a potential role in pancreatic carcinoma. <i>Ther Adv Med Oncol.</i> 2011 Jan;3(1):27-33.	NO STUDY DESIGN - narrative review - to check the references
Xu CP, Xue XJ, Liang N, Xu DG, Liu FJ, et al. Effect of CRT and neoadjuvant CRT in resectable PC: a systematic review and meta-analysis. <i>J Cancer Res Clin Oncol.</i> 2014 Apr;140(4):549-59.	This meta-analysis have been updated be an earliest publication (references have been checked)

G.13₁ Resectable and borderline resectable pancreatic cancer

Study	Reason for Exclusion
Ammori, B. J., Ayiomamitis, G. D., Laparoscopic pancreaticoduodenectomy and distal pancreatectomy: A UK experience and a systematic review of the literature, <i>Surgical Endoscopy and Other Interventional Techniques</i> , 25, 2084-2099, 2011	N=21 (14 LDP vs 7 LPD)
Angst, E., Hiatt, J. R., Gloor, B., Reber, H. A., Hines, O. J., Laparoscopic surgery for cancer: A systematic review and a way forward, <i>Journal of the American College of Surgeons</i> , 211, 412-423, 2010	Review Article/Colon Cancer
Bassi, C., Stocken, D. D., Olah, A., Friess, H., Buckels, J., Hickey, H., Dervenis, C., Dunn, J. A., Deakin, M., Carter, R.,	Intervention/Comparison not relevant to PICO

Study	Reason for Exclusion
Ghaneh, P., Neoptolemos, J. P., Buchler, M. W., European Study Group for Pancreatic, Cancer, Influence of surgical resection and post-operative complications on survival following adjuvant treatment for pancreatic cancer in the ESPAC-1 randomized controlled trial, <i>Digestive surgery</i> , 22, 353-63, 2005	
Beger, H. G., Nakao, A., Mayer, B., Poch, B., Duodenum-preserving total and partial pancreatic head resection for benign tumors--systematic review and meta-analysis, <i>Pancreatology</i> , 15, 167-78, 2015	Benign Tumours
Bell, R. H., Jr., Pancreaticoduodenectomy with or without pylorus preservation have similar outcomes, <i>Cancer treatment reviews</i> , 31, 328-31, 2005	No data
Boggi, U., Amorese, G., Vistoli, F., Caniglia, F., De Lio, N., Perrone, V., Barbarello, L., Belluomini, M., Signori, S., Mosca, F., Laparoscopic pancreaticoduodenectomy: a systematic literature review, <i>Surgical Endoscopy and Other Interventional Techniques</i> , 29, 9-23, 2015	Data all included in other systematic reviews
Borja-Cacho, D., Al-Refaie, W., Vickers, S., Tuttle, T., Jensen, E., Laparoscopic distal pancreatectomy: A systematic review of the current literature, <i>Pancreas</i> , 38 (8), 985, 2009	Conference Abstract
Brar, S. S., Seevaratnam, R., Cardoso, R., Law, C., Helyer, L., Coburn, N., A systematic review of spleen and pancreas preservation in extended lymphadenectomy for gastric cancer (Structured abstract), <i>Gastric Cancer</i> , 15, S89-s99, 2012	Population not relevant to PICO (gastric cancer)
Briggs, C. D., Mann, C. D., Irving, G. R., Neal, C. P., Peterson, M., Cameron, I. C., Berry, D. P., Systematic review of minimally invasive pancreatic resection, <i>Journal of Gastrointestinal Surgery</i> , 13, 1129-37, 2009	Data all included in other systematic reviews
Buchler, M. W., Friess, H., Muller, M. W., Wheatley, A. M., Beger, H. G., Randomized trial of duodenum-preserving pancreatic head resection versus pylorus-preserving Whipple in chronic pancreatitis, <i>American Journal of Surgery</i> , 169, 65-9; discussion 69-70, 1995	Not relevant to PICO (population)
Buchler, M. W., Lubke, D., Muller, M. W., Friess, H., Comparison between pylorus-preserving whipple operation and duodenum-preserving pancreatic head resection, Vergleich pylorus-erhaltende Whippel-Operation mit duodenum-erhaltender Pankreasresektion, <i>Acta Chirurgica Austriaca</i> , 28, 200-204, 1996	Foreign Language Population not relevant to PICO
Butturini, G., Damoli, I., Crepaz, L., Malleo, G., Marchegiani, G., Daskalaki, D., Esposito, A., Cingarlini, S., Salvia, R., Bassi, C., A prospective non-randomised single-center study comparing laparoscopic and robotic distal pancreatectomy, <i>Surgical Endoscopy and Other Interventional Techniques</i> , 29, 3163-3170, 2015	Not required - systematic reviews available
Butturini, G., Partelli, S., Crippa, S., Malleo, G., Rossini, R., Casetti, L., Melotti, G. L., Piccoli, M., Pederzoli, P., Bassi, C., Perioperative and long-term results after left pancreatectomy: a single-institution, non-randomized, comparative study between open and laparoscopic approach, <i>Surgical Endoscopy</i> , 25, 2871-8, 2011	Not randomised (SR available)
Capussotti, L., Massucco, P., Ribero, D., Vigano, L., Muratore, A., Calgaro, M., Extended lymphadenectomy and vein resection for pancreatic head cancer: outcomes and implications for therapy, <i>Archives of surgery</i> , 138, 1316-22, 2003	Not relevant to PICO (population)
Ceppa, E. P., McCurdy, R. M., Parikh, J. A., Kilbane, E. M.,	Abstract Only

Study	Reason for Exclusion
Schmidt, C. M., Zyromski, N. J., Pitt, H. A., Nakeeb, A., House, M. G., Contemporary differences in postoperative outcomes following laparoscopic versus open distal pancreatectomy for pancreatic adenocarcinoma, <i>Hpb</i> , 15, 10, 2013	
Chadi, S. A., Croome, K. P., Schlachta, C., Hernandez-Alejandro, R., Reduced post-operative complications with laparoscopic versus open distal pancreatectomy: A meta-analysis, <i>Hpb</i> , 14, 13, 2012	Abstract Only
Chen, Q. J., He, Z. Q., Yang, Y., Zhang, Y. S., Chen, X. L., Yang, H. J., Zhu, S. K., Zhong, P. Y., Yang, C., Wu, H. S., Is there comparable morbidity in pylorus-preserving and pylorus-resecting pancreaticoduodenectomy? A meta-analysis, <i>Journal of Huazhong University of Science and Technology. Medical SciencesJ Huazhong Univ Sci Technol Med Sci</i> , 35, 793-800, 2015	Data all included in other systematic reviews
Chua, T. C., Saxena, A., Extended pancreaticoduodenectomy with vascular resection for pancreatic cancer: a systematic review, <i>Journal of Gastrointestinal Surgery</i> , 14, 1442-52, 2010	Non-comparative
Cirocchi, R., Partelli, S., Coratti, A., Desiderio, J., Parisi, A., Falconi, M., Current status of robotic distal pancreatectomy: a systematic review, <i>Surgical Oncology</i> , 22, 201-7, 2013	Data all included in other systematic reviews
Cirocchi, R., Partelli, S., Trastulli, S., Coratti, A., Parisi, A., Falconi, M., A systematic review on robotic pancreaticoduodenectomy, <i>Surgical Oncology</i> , 22, 238-46, 2013	Data all included in other systematic reviews
Correa-Gallego, C., Dinkelspiel, H. E., Sulimanoff, I., Fisher, S., Vinuela, E. F., Kingham, T. P., Fong, Y., DeMatteo, R. P., D'Angelica, M. I., Jarnagin, W. R., Allen, P. J., Minimally-invasive vs open pancreaticoduodenectomy: systematic review and meta-analysis, <i>Journal of the American College of Surgeons</i> , 218, 129-39, 2014	Data all included in other systematic reviews
Dasari, B. V., Pasquali, S., Vohra, R. S., Smith, A. M., Taylor, M. A., Sutcliffe, R. P., Muiesan, P., Roberts, K. J., Isaac, J., Mirza, D. F., Extended Versus Standard Lymphadenectomy for Pancreatic Head Cancer: Meta-Analysis of Randomized Controlled Trials, <i>Journal of Gastrointestinal Surgery</i> , 19, 1725-32, 2015	Data all included in other systematic reviews
Diener, M. K., Heukafer, C., Schwarzer, G., Seiler, C. M., Antes, G., Buchler, M., Knaebel, H. P., Pancreaticoduodenectomy (classic Whipple) versus pylorus-preserving pancreaticoduodenectomy (pp Whipple) for surgical treatment of periampullary and pancreatic carcinoma, <i>Cochrane Database of Systematic Reviews</i> , CD006053, 2008	Huttner (2016) is the up to date version
Diener, M. K., Knaebel, H. P., Heukafer, C., Antes, G., Buchler, M. W., Seiler, C. M., A systematic review and meta-analysis of pylorus-preserving versus classical pancreaticoduodenectomy for surgical treatment of periampullary and pancreatic carcinoma, <i>Annals of Surgery</i> , 245, 187-200, 2007	Data all included in other systematic reviews
Diener, M. K., Rahbari, N. N., Fischer, L., Antes, G., Buchler, M. W., Seiler, C. M., Duodenum-preserving pancreatic head resection versus pancreatoduodenectomy for surgical treatment of chronic pancreatitis: a systematic review and meta-analysis, <i>Annals of Surgery</i> , 247, 950-61, 2008	Not relevant to PICO (population)

Study	Reason for Exclusion
Drymouisis, P., Raptis, D. A., Spalding, D., Fernandez-Cruz, L., Menon, D., Breitenstein, S., Davidson, B., Frilling, A., Laparoscopic versus open pancreas resection for pancreatic neuroendocrine tumours: a systematic review and meta-analysis {DARE provisional abstract}, <i>Hpb</i> , 16, 397-406, 2014	Data all included in other systematic reviews
Farkas, G., Leindler, L., Daroczi, M., Farkas, G., Jr., Prospective randomised comparison of organ-preserving pancreatic head resection with pylorus-preserving pancreaticoduodenectomy, <i>Langenbecks Archives of Surgery</i> Langenbecks Arch Surg, 391, 338-42, 2006	Not relevant to PICO (population)
Farnell, M. B., Pearson, R. K., Sarr, M. G., DiMagno, E. P., Burgart, L. J., Dahl, T. R., Foster, N., Sargent, D. J., Pancreas Cancer Working, Group, A prospective randomized trial comparing standard pancreatoduodenectomy with pancreatoduodenectomy with extended lymphadenectomy in resectable pancreatic head adenocarcinoma, <i>Surgery</i> , 138, 618-28; discussion 628-30, 2005	Data all included in other systematic reviews
Furukawa, H., Hiratsuka, M., Ishikawa, O., Ikeda, M., Imamura, H., Masutani, S., Tatsuta, M., Satomi, T., Total gastrectomy with dissection of lymph nodes along the splenic artery: a pancreas-preserving method, <i>Annals of Surgical Oncology</i> , 7, 669-73, 2000	Not relevant to PICO (population)
Goh, B. K. P., Randomized clinical trial of pancreaticogastrostomy versus pancreaticojejunostomy on the rate and severity of pancreatic fistula after pancreaticoduodenectomy (<i>Br J Surg</i> 2013; 100: 1597-1605), <i>British Journal of Surgery</i> , 101, 289-90, 2014	Data available from systematic reviews
Gresham, G., Ng, S., Chang, A., Valdez, S., Gill, S., Predicting survival in resected pancreatic cancer: A Canadian provincial experience, <i>Journal of Clinical Oncology. Conference</i> , 30, 2012	Abstract Only
Gurusamy Kurinchi, Selvan, Lusuku, Charnelle, Halkias, Constantine, Davidson Brian, R., Duodenum-preserving pancreatic resection versus pancreaticoduodenectomy for chronic pancreatitis, <i>Cochrane Database of Systematic Reviews</i> , 2016	Population not relevant
Hafezi, M., Fischer, L., Dirlwanger, A., Werner, J., Buchler, M. W., Mehrabi, A., A systematic review of localization, surgical treatment options and outcome of insulinoma, <i>Pancreatology</i> , 13 (2), e30, 2013	Not relevant to PICO
Halkias, C., Kaptanis, S., Chatzikonstantinou, M., Duodenum preserving pancreatic head resection versus pancreaticoduodenectomy for chronic pancreatitis: Systematic review and meta-analysis, <i>International Journal Of Surgery</i> Int J Surg, 23, S64, 2015	Population not relevant to PICO
He, Z., Qian, D., Hua, J., Gong, J., Lin, S., Song, Z., Clinical comparison of distal pancreatectomy with or without splenectomy: a meta-analysis.[Erratum appears in <i>PLoS One</i> . 2014;9(7):e103464], 9, e91593, 2014	Data all included in other systematic reviews
Hilal, M. A., Hamdan, M., Fabio, F., Pearce, N. W., Johnson, C. D., Laparoscopic versus open distal pancreatectomy: a clinical and cost-effectiveness study (Structured abstract), <i>Surgical Endoscopy and Other Interventional Techniques</i> , 26, 1670-1674, 2012	Data all included in other systematic reviews
Huttner, F. J., Koessler-Ebs, J., Hackert, T., Ulrich, A., Buchler, M. W., Diener, M. K., Meta-analysis of surgical outcome after enucleation versus standard resection for pancreatic	Not relevant to PICO (intervention/comparison)

Study	Reason for Exclusion
neoplasms, <i>British Journal of Surgery</i> , 102, 1026-36, 2015	
Iacono, C., Bortolasi, L., Facci, E., Falezza, G., Prati, G., Mangiante, G., Serio, G., Does extended pancreaticoduodenectomy increase operative morbidity and mortality vs. standard pancreaticoduodenectomy?, <i>Journal of Gastrointestinal Surgery</i> , 1, 446-53, 1997	Data all included in other systematic reviews
Ierardi, A. M., Lucchina, N., Petrillo, M., Floridi, C., Piacentino, F., Bacuzzi, A., Fonio, P., Fontana, F., Fugazzola, C., Brunese, L., Carrafiello, G., Systematic review of minimally invasive ablation treatment for locally advanced pancreatic cancer, <i>Radiologia Medica Radiol Med (Torino)</i> , 119, 483-98, 2014	Not relevant to PICO (comparison)
Iqbal, N., Lovegrove, R. E., Tilney, H. S., Abraham, A. T., Bhattacharya, S., Tekkis, P. P., Kocher, H. M., A comparison of pancreaticoduodenectomy with extended pancreaticoduodenectomy: a meta-analysis of 1909 patients, <i>European Journal of Surgical Oncology</i> , 35, 79-86, 2009	Data all included in other systematic reviews
Iqbal, N., Lovegrove, R. E., Tilney, H. S., Abraham, A. T., Bhattacharya, S., Tekkis, P. P., Kocher, H. M., A comparison of pancreaticoduodenectomy with pylorus preserving pancreaticoduodenectomy: a meta-analysis of 2822 patients, <i>European Journal of Surgical Oncology</i> , 34, 1237-45, 2008	Data all included in other systematic reviews
Izbicki, J. R., Bloechle, C., Knoefel, W. T., Wilker, D. K., Dornsneider, G., Broelsch, C. E., Comparison of two techniques of duodenum-preserving resection of the head of the pancreas in chronic pancreatitis, <i>Digestive Surgery</i> , 11, 331-7, 1994	Not relevant to PICO (population)
Jang, J. Y., Kang, M. J., Heo, J. S., Choi, S. H., Choi, D. W., Park, S. J., Han, S. S., Yoon, D. S., Yu, H. C., Kang, K. J., Kim, S. G., Kim, S. W., A prospective randomized controlled study comparing outcomes of standard resection and extended resection, including dissection of the nerve plexus and various lymph nodes, in patients with pancreatic head cancer, <i>Annals of surgery</i> , 259, 656-64, 2014	Data all included in other systematic reviews
Jang, J. Y., Kim, S. W., Choi, D. W., Choi, S. H., Park, S. J., Yoon, D. S., Cho, B. H., Kang, K. J., Randomized prospective study on the optimal extent of resection in pancreatic head cancer, <i>Hpb</i> , 14, 233, 2012	Abstract Only
Jawad, Z. A., Tsim, N., Pai, M., Bansi, D., Westaby, D., Vlavianos, P., Jiao, L. R., Short and long-term post-operative outcomes of duodenum preserving pancreatic head resection for chronic pancreatitis affecting the head of pancreas: a systematic review and meta-analysis, <i>Hpb</i> , 18, 121-8, 2016	Abstract Only
Jiang, K. R., Miao, Y., [Standard with extended pancreaticoduodenectomy for adenocarcinoma of the head of the pancreas: a meta-analysis], <i>Chung-Hua Wai Ko Tsa Chih [Chinese Journal of Surgery]</i> <i>Chung Hua Wai Ko Tsa Chih</i> , 45, 9-16, 2007	Foreign Language
Jiang, K., Wu, K., Liao, Y., Tu, B., [A meta-analysis of surgery treatment of chronic pancreatitis with an inflammatory mass in the head of pancreas: duodenum-preserving pancreatic head resection versus pancreatoduodenectomy] {DARE provisional abstract}, <i>Chung-Hua Wai Ko Tsa Chih [Chinese Journal of Surgery]</i> <i>Chung Hua Wai Ko Tsa Chih</i> , 52, 668-74, 2014	Foreign Language
Jilesen, A. P., van Eijck, C. H., In't Hof, K. H., van Dieren, S., Gouma, D. J., Nieveen van Dijkum, E. J., Postoperative Complications, In-Hospital Mortality and 5-Year Survival After Surgical Resection for Patients with a Pancreatic	Not relevant to PICO

Study	Reason for Exclusion
Neuroendocrine Tumor: A Systematic Review, World Journal of Surgery, 40, 729-48, 2016	
Jusoh, A. C., Ammori, B. J., Laparoscopic versus open distal pancreatectomy: a systematic review of comparative studies, Surgical Endoscopy, 26, 904-13, 2012	Data all included in other systematic reviews
Kang, M. J., Jang, J. Y., Chang, Y. R., Jung, W., Kim, S. W., Literature review and meta-analysis of extent of surgery for pancreatic head cancer: What is a reasonable extent of surgery?, Pancreatology, 1), S87, 2015	Abstract Only
Karanicolas, P. J., Davies, E., Kunz, R., Briel, M., Koka, H. P., Payne, D. M., Smith, S. E., Hsu, H. P., Lin, P. W., Bloechle, C., Paquet, K. J., Guyatt, G. H., The pylorus: take it or leave it? Systematic review and meta-analysis of pylorus-preserving versus standard whipple pancreaticoduodenectomy for pancreatic or periampullary cancer, Annals of Surgical Oncology, 14, 1825-34, 2007	Data all included in other systematic reviews
Kawai, M., Hirono, S., Okada, K., Miyazawa, M., Shimizu, A., Kitahata, Y., Ueno, M., Hayami, S., Yamaguchi, S., Yamaue, H., Does resecting pylorus ring during pancreaticoduodenectomy improve short and long-term outcomes compared with preserving pylorus ring? The results of a prospective randomized controlled trial, Hpb, 17, 23, 2015	Abstract Only
Khaled, Y. S., Malde, D. J., Packer, J., De Liguori Carino, N., Deshpande, R., O'Reilly, D. A., Sherlock, D. J., Ammori, B. J., A Case-matched Comparative Study of Laparoscopic Versus Open Distal Pancreatectomy, Surgical Laparoscopy, Endoscopy and Percutaneous Techniques, 25, 363-367, 2015	Data all included in other systematic reviews
Kim, S. W., Randomized controlled multicenter trial to establish the adequate extent of resection for pancreatic head cancer in Korea, Pancreatology, 10, 33-34, 2010	Data all included in other systematic reviews
Kovalenko, Z. A., Melekhina, O. V., Vishnevsky, V. A., Shevchenko, T. V., Egorov, V. I., Results of standard and extended pancreaticoduodenectomies for pancreatic ductal adenocarcinoma, Pancreatology, 12 (6), 560-561, 2012	Abstract Only
Lin, P. W., Lin, Y. J., Prospective randomized comparison between pylorus-preserving and standard pancreaticoduodenectomy, British Journal of Surgery, 86, 603-7, 1999	Data all included in other systematic reviews
Loser, J., Schiefke, I., Lauer, H., Uhlmann, D., Witzigmann, H., Pylorus-preserving pancreatoduodenectomy vs. classical Whipple procedure in malignant and benign tumors of the pancreatic head in the periampullary region. Results of a prospective, randomized study, Chirurgisches Forum/ Deutsche Gesellschaft für Chirurgie, 36, 17-9, 2007	Book Chapter
Makowiec, F., Keck, T., Adam, U., Riediger, H., Wittel, U. A., Wellner, U. F., Hopt, U. T., Trends in pancreatic surgery: Indications, operative techniques and postoperative outcome of 1120 pancreatic resections, Gastroenterology, 1), S1082, 2013	Abstract Only
Makowiec, F., Post, S., Saeger, H. D., Senninger, N., Becker, H., Betzler, M., Buhr, H. J., Hopt, U. T., German Advanced Surgical Treatment Study, Group, Current practice patterns in pancreatic surgery: results of a multi-institutional analysis of seven large surgical departments in Germany with 1454 pancreatic head resections, 1999 to 2004 (German Advanced Surgical Treatment study group), Journal of Gastrointestinal Surgery, 9, 1080-6; discussion 1086-7, 2005	Not relevant to PICO - review article which does not compare surgery type

Study	Reason for Exclusion
Matsumoto, I., Shinzeki, M., Asari, S., Goto, T., Shirakawa, S., Ajiki, T., Fukumoto, T., Suzuki, Y., Ku, Y., A prospective randomized comparison between pylorus- and subtotal stomach-preserving pancreatoduodenectomy on postoperative delayed gastric emptying occurrence and long-term nutritional status, <i>Journal of Surgical Oncology</i> , 109, 690-6, 2014	Pancreatic Cancer patients were excluded
Mehrabi, A., Hafezi, M., Arvin, J., Esmailzadeh, M., Garoussi, C., Emami, G., Kossler-Ebs, J., Muller-Stich, B. P., Buchler, M. W., Hackert, T., Diener, M. K., A systematic review and meta-analysis of laparoscopic versus open distal pancreatectomy for benign and malignant lesions of the pancreas: it's time to randomize, <i>Surgery</i> , 157, 45-55, 2015	Data all included in other systematic reviews
Mehta, S. S., Doumane, G., Mura, T., Nocca, D., Fabre, J. M., Laparoscopic versus open distal pancreatectomy: a single-institution case-control study, <i>Surgical Endoscopy</i> , 26, 402-7, 2012	Data all included in other systematic reviews
Michalski, C. W., Kleeff, J., Wente, M. N., Diener, M. K., Buchler, M. W., Friess, H., Systematic review and meta-analysis of standard and extended lymphadenectomy in pancreaticoduodenectomy for pancreatic cancer, <i>British Journal of Surgery</i> , 94, 265-73, 2007	Data all included in other systematic reviews
Mobius, C., Max, D., Uhlmann, D., Gump, K., Behrbohm, J., Horvath, K., Hauss, J., Witzigmann, H., Five-year follow-up of a prospective non-randomised study comparing duodenum-preserving pancreatic head resection with classic Whipple procedure in the treatment of chronic pancreatitis, <i>Langenbecks Archives of Surgery</i> <i>Langenbecks Arch Surg</i> , 392, 359-64, 2007	Not relevant to PICO (population)
Nam, J. S., Kim, S. C., Song, K. B., Park, K. M., Lee, J. H., Hwang, J. W., Yoon, J. H., Comparison of short term outcomes between laparoscopic distal pancreatectomy and open distal pancreatectomy for pancreatic cancer, <i>Hpb</i> , 15, 64, 2013	Abstract Only
Nam, J., Song, K. B., Lee, Y. J., Park, K. M., Lee, J. H., Hwang, J. W., Yoon, J. H., Lee, D. J., Lee, J. W., Kim, S. C., Comparison of outcomes between laparoscopic distal pancreatectomy and open distal pancreatectomy for pancreatic cancer (PDAC), <i>Pancreatology</i> , 13 (4 SUPPL.), S9-S10, 2013	Abstract Only
Nguyen, T. C., Sohn, T. A., Cameron, J. L., Lillemoe, K. D., Campbell, K. A., Coleman, J., Sauter, P. K., Abrams, R. A., Hruban, R. H., Yeo, C. J., Standard vs. radical pancreaticoduodenectomy for periampullary adenocarcinoma: a prospective, randomized trial evaluating quality of life in pancreaticoduodenectomy survivors, <i>Journal of Gastrointestinal Surgery</i> , 7, 1-9; discussion 9-11, 2003	Not relevant to PICO (population)
Nigri, G. R., Rosman, A. S., Petrucciani, N., Fancellu, A., Pisano, M., Zorcolo, L., Ramacciato, G., Melis, M., Metaanalysis of trials comparing minimally invasive and open distal pancreatectomies, <i>Surgical Endoscopy and Other Interventional Techniques</i> , 25, 1642-1651, 2011	Data all included in other systematic reviews
Nimura, Y., Nagino, M., Takao, S., Takada, T., Miyazaki, K., Kawarada, Y., Miyagawa, S., Yamaguchi, A., Ishiyama, S., Takeda, Y., Sakoda, K., Kinoshita, T., Yasui, K., Shimada, H., Katoh, H., Standard versus extended lymphadenectomy in radical pancreatoduodenectomy for ductal adenocarcinoma of the head of the pancreas: long-term results of a Japanese multicenter randomized controlled trial, <i>Journal of Hepato-Biliary-Pancreatic Sciences</i> , 19, 230-41, 2012	Data all included in other systematic reviews
Okano, K., Hirao, T., Unno, M., Fujii, T., Yoshitomi, H., Suzuki,	Not relevant to PICO

Study	Reason for Exclusion
S., Satoi, S., Takahashi, S., Kainuma, O., Suzuki, Y., Postoperative infectious complications after pancreatic resection, <i>British Journal of Surgery</i> , 102, 1551-60, 2015	(Comparisons/outcomes)
Orci, L. A., Meyer, J., Combescure, C., Buhler, L., Berney, T., Morel, P., Toso, C., A meta-analysis of extended versus standard lymphadenectomy in patients undergoing pancreatoduodenectomy for pancreatic adenocarcinoma, <i>Hpb</i> , 17, 565-72, 2015	Data all included in other systematic reviews
Pedrazzoli, S., DiCarlo, V., Dionigi, R., Mosca, F., Pederzoli, P., Pasquali, C., Kloppel, G., Dhaene, K., Michelassi, F., Standard versus extended lymphadenectomy associated with pancreatoduodenectomy in the surgical treatment of adenocarcinoma of the head of the pancreas: a multicenter, prospective, randomized study. Lymphadenectomy Study Group, <i>Annals of Surgery</i> , 228, 508-17, 1998	Data all included in other systematic reviews
Pendola, F., Gadde, R., Ripat, C., Sharma, R., Picado, O., Lobo, L., Sleeman, D., Merchant, N., Livingstone, A., Yakoub, D., Pancreatic neck/body benign and low grade malignant tumors: Is central pancreatectomy better than distal pancreatectomy? An update meta-analysis, <i>Annals of Surgical Oncology</i> , 1), S167-S168, 2016	Abstract
Pericleous, S., Middleton, N., McKay, S. C., Bowers, K. A., Hutchins, R. R., Systematic review and meta-analysis of case-matched studies comparing open and laparoscopic distal pancreatectomy: is it a safe procedure?, <i>Pancreas</i> , 41, 993-1000, 2012	Data all included in other systematic reviews
Ricci, C., Casadei, R., Taffurelli, G., Toscano, F., Pacilio, C. A., Bogoni, S., D'Ambra, M., Pagano, N., Di Marco, M. C., Minni, F., Laparoscopic versus open distal pancreatectomy for ductal adenocarcinoma: a systematic review and meta-analysis, <i>Journal of Gastrointestinal Surgery</i> , 19, 770-81, 2015	Data all included in other systematic reviews
Riviere, Deniece, Gurusamy Kurinchi, Selvan, Kooby David, A., Vollmer Charles, M., Besselink Marc, G. H., Davidson Brian, R., van Laarhoven Cornelis, J. H. M., Laparoscopic versus open distal pancreatectomy for pancreatic cancer, <i>Cochrane Database of Systematic Reviews</i> , 2016	Data all included in other systematic reviews
Rooij, T. D., Jilesen, A., Kazemier, G., Boerma, D., Bonsing, B., Bosscha, K., Dam, R. V., Dijkgraaf, M., Eijck, C. V., Gerhards, M., Goor, H. V., Van Der Harst, E., Hingh, I. D., Klaase, J., Molenaar, Q., Van Dijkum, E. N., Patijn, G., Santvoort, H. V., Scheepers, J., Van Der Schelling, G., Sieders, E., Vogel, J., Busch, O., Besselink, M., Laparoscopic versus open distal pancreatectomy for benign and malignant disease: A multicenter retrospective analysis, <i>Pancreatology</i> , 1), S9-S10, 2014	Abstract Only
Seiler, C. A., Wagner, M., Bachmann, T., Redaelli, C. A., Schmied, B., Uhl, W., Friess, H., Buchler, M. W., Randomized clinical trial of pylorus-preserving duodenopancreatectomy versus classical Whipple resection-long term results, <i>British Journal of Surgery</i> , 92, 547-56, 2005	Data all included in other systematic reviews
Seiler, C. A., Wagner, M., Sadowski, C., Kulli, C., Buchler, M. W., Randomized prospective trial of pylorus-preserving vs. Classic duodenopancreatectomy (Whipple procedure): initial clinical results, <i>Journal of Gastrointestinal Surgery</i> , 4, 443-52, 2000	Initial results with updated results available in a more recent publication
Seiler, C. A., Wagner, M., Schaller, B., Sadowski, C., Kulli, C., Buchler, M. W., [Pylorus preserving or classical Whipple	Foreign Language

Study	Reason for Exclusion
operation in tumors. Initial clinical results of a prospective randomized study], <i>Swiss surgery</i> , 6, 275-82, 2000	
Slotwinski, R., Olszewski, W. L., Lech, G., Gulak, G., Slotwinska, S. M., Immunonutrition after major pancreatic surgery, <i>Central-European Journal of Immunology</i> , 33, 67-73, 2008	Not relevant to PICO (intervention)
Soloviy, M., Soloviy, B., Laparoscopic vs. open resection of pancreatic endocrine neoplasms: A review, <i>Surgical Endoscopy and Other Interventional Techniques</i> , 26, S121, 2012	Abstract Only
Sperling, J., Schuld, J., Hechler, A. M., Slotta, J. E., Kollmar, O., Extended versus standard lymphadenectomy in patients undergoing pancreaticoduodenectomy for periampullary adenocarcinoma: a prospective randomized single center trial, <i>European Surgery - Acta Chirurgica Austriaca</i> , 48, 26-33, 2016	Not relevant to PICO (population)
Stojadinovic, A., Brooks, A., Hoos, A., Jaques, D. P., Conlon, K. C., Brennan, M. F., An evidence-based approach to the surgical management of resectable pancreatic adenocarcinoma, <i>Journal of the American College of Surgeons</i> , 196, 954-64, 2003	Not systematic
Strijker, M., van Santvoort, H. C., Besselink, M. G., van Hillegersberg, R., Borel Rinkes, I. H., Vriens, M. R., Molenaar, I. Q., Robot-assisted pancreatic surgery: a systematic review of the literature, <i>Hpb</i> , 15, 1-10, 2013	Non-comparative
Sukharamwala, P. B., Patel, K. D., Teta, A. F., Parikh, S., Ross, S. B., Ryan, C. E., Rosemurgy, A. S., Long-term Outcomes Favor Duodenum-preserving Pancreatic Head Resection over Pylorus-preserving Pancreaticoduodenectomy for Chronic Pancreatitis: A Meta-analysis and Systematic Review, <i>American Surgeon</i> , 81, 909-14, 2015	Not relevant to PICO (population)
Sulpice, L., Farges, O., Goutte, N., Bendersky, N., Dokmak, S., Sauvanet, A., Delpero, J. R., Achbt French Pancreatectomy Study Group, Laparoscopic Distal Pancreatectomy for Pancreatic Ductal Adenocarcinoma: Time for a Randomized Controlled Trial? Results of an All-inclusive National Observational Study, <i>Annals of Surgery</i> , 262, 868-73; discussion 873-4, 2015	Data all included in other systematic reviews
Svoronos, C., Tsoulfas, G., Katsourakis, A., Noussios, G., Chatzitheoklitos, E., Marakis, N. G., Role of extended lymphadenectomy in the treatment of pancreatic head adenocarcinoma: review and meta-analysis, <i>ANZ Journal of Surgery</i> , 84, 706-11, 2014	Data all included in other systematic reviews
Sweeney, K. J., Kell, M. R., Ravi, N., Reynolds, J. V., Major upper gastrointestinal surgery is associated with an antigen-dependent proinflammatory T cell response, <i>British Journal of Surgery</i> , 92, 989-995, 2005	Review Article/Not relevant to PICO
Szatmary, P., Deng, L. H., Xiong, J., Wei, A., Huang, W., Nunes, Q., Raraty, M., Liu, X., Sutton, R., Laparoscopic versus open left pancreatectomy for pancreatic ductal adenocarcinoma: A systematic review and meta-analysis, <i>Pancreatology</i> , 1), S115, 2015	Abstract Only
Taffurelli, G., Ricci, C., Pacilio, C. A., Ingaldi, C., Bogoni, S., Toscano, F., Pagano, N., Di Marco, M., Casadei, R., Minni, F., Is safe the laparoscopic approach in distal pancreatectomy for ductal adenocarcinoma? Systematic review and meta-analysis, <i>Pancreatology</i> , 1), S38-S39, 2015	Abstract Only
Tani, M., Kawai, M., Hirono, S., Ina, S., Miyazawa, M., Fujita, Y., Uchiyama, K., Yamaue, H., Pylorus-preserving	Not randomised (randomised comparisons available)

Study	Reason for Exclusion
pancreaticoduodenectomy versus conventional pancreaticoduodenectomy for pancreatic adenocarcinoma, <i>Surgery Today</i> , 39, 219-24, 2009	
Tol, J. A., Eshuis, W. J., Besselink, M. G., van Gulik, T. M., Busch, O. R., Gouma, D. J., Non-radical resection versus bypass procedure for pancreatic cancer - a consecutive series and systematic review, <i>European Journal of Surgical Oncology</i> , 41, 220-7, 2015	Not relevant to PICO (comparisons)
Tran, K. T., Smeenk, H. G., van Eijck, C. H., Kazemier, G., Hop, W. C., Greve, J. W., Terpstra, O. T., Zijlstra, J. A., Klinkert, P., Jeekel, H., Pylorus preserving pancreaticoduodenectomy versus standard Whipple procedure: a prospective, randomized, multicenter analysis of 170 patients with pancreatic and periampullary tumors, <i>Annals of Surgery</i> , 240, 738-45, 2004	Data all included in other systematic reviews
Witzigmann, H., Max, D., Uhlmann, D., Geissler, F., Schwarz, R., Ludwig, S., Lohmann, T., Caca, K., Keim, V., Tannapfel, A., Hauss, J., Outcome after duodenum-preserving pancreatic head resection is improved compared with classic Whipple procedure in the treatment of chronic pancreatitis, <i>Surgery</i> , 134, 53-62, 2003	Not relevant to PICO (population)
Xie, K., Zhu, Y. P., Xu, X. W., Chen, K., Yan, J. F., Mou, Y. P., Laparoscopic distal pancreatectomy is as safe and feasible as open procedure: a meta-analysis, <i>World Journal of Gastroenterology</i> , 18, 1959-67, 2012	Data all included in other systematic reviews
Xu, S. B., Zhu, Y. P., Zhou, W., Xie, K., Mou, Y. P., Patients get more long-term benefit from central pancreatectomy than distal resection: a meta-analysis, <i>European Journal of Surgical Oncology</i> , 39, 567-74, 2013	Not relevant to PICO (comparison)
Xu, X., Zhang, H., Zhou, P., Chen, L., Meta-analysis of the efficacy of pancreatoduodenectomy with extended lymphadenectomy in the treatment of pancreatic cancer.[Retraction in <i>World J Surg Oncol.</i> 2015;13:125; PMID: 25889198], [Retraction in <i>World J Surg Oncol.</i> 2015;13:125. doi:10.1186/s12957-015-0547-0], <i>World Journal of Surgical Oncology</i> , 11, 311, 2013	Article retracted
Yamaue, H., Kawai, M., Tani, M., Hirono, S., Okada, K. I., Miyazawa, M., Kitahata, Y., Ueno, M., Pylorus-resecting pancreaticoduodenectomy (prpd) vs. pppd the prospective randomized controlled trial in wakayama medical university, <i>Hpb</i> , 14, 606, 2012	Abstract Only
Yokoyama, Y., Nagino, M., Role of extended surgery for pancreatic cancer: critical review of the four major RCTs comparing standard and extended surgery, <i>Journal of Hepato-Biliary-Pancreatic Sciences</i> , 18, 785-91, 2011	Not systematic
Zibari, G. B., Fallahzadeh, M. K., Mokhtari, N., Hamidian, A., Chu, Q., Abdehou, S. T., Shokouh-Amiri, H., Minimally invasive versus open distal pancreatectomy for treatment of pancreatic lesions: A single center experience, <i>Hpb</i> , 16, 231-232, 2014	Abstract Only

G.14₁ Adjuvant treatment

Study	Reason for exclusion
Abrams, R. A., Winter, K. A., Regine, W. F., Safran, H., Hoffman, J. P., Lustig, R., ... & Willett, C. G. (2012). Failure to adhere to protocol specified radiation therapy guidelines was associated with decreased survival in RTOG 9704—a phase III trial of adjuvant chemotherapy and chemoradiotherapy for patients	No relevant outcomes

Study	Reason for exclusion
with resected adenocarcinoma of the pancreas. <i>International Journal of Radiation Oncology* Biology* Physics</i> , 82(2), 809-816.	
Andersen, J. R., Friis-Møller, A., Hancke, S., Røder, O., Steen, J., & Baden, H. (1981). A controlled trial of combination chemotherapy with 5-FU and BCNU in pancreatic cancer. <i>Scandinavian journal of gastroenterology</i> , 16(8), 973-975.	Mixed PC patients
Backlund, D. C., Berlin, J. D., & Parikh, A. A. (2010). Update on adjuvant trials for pancreatic cancer. <i>Surgical oncology clinics of North America</i> , 19(2), 391-409.	Narrative review
Bakkevoid, K. E., Arnesjø, B., Dahl, O., & Kambestad, B. (1993). Adjuvant combination chemotherapy (AMF) following radical resection of carcinoma of the pancreas and papilla of Vater—results of a controlled, prospective, randomised multicentre study. <i>European Journal of Cancer</i> , 29(5), 698-703.	chemoradiotherapy vs obs only study
Bassi, C., Stocken, D. D., Olah, A., Friess, H., Buckels, J., Hickey, H., ... & Ghaneh, P. (2006). Influence of surgical resection and post-operative complications on survival following adjuvant treatment for pancreatic cancer in the ESPAC-1 randomized controlled trial. <i>Digestive surgery</i> , 22(5), 353-363.	Surgical intervention study
Bendell, J., & Goldberg, R. M. (2007). Targeted agents in the treatment of pancreatic cancer: history and lessons learned. <i>Current opinion in Oncology</i> , 19(4), 390-395.	Review - no additional relevant articles
Bergenfeldt, M., & Albertsson, M. (2006). Current state of adjuvant therapy in resected pancreatic adenocarcinoma. <i>Acta Oncologica</i> , 45(2), 124-135.	Review - no additional relevant articles
Bock, S., Hinke, A., Wilkowski, R., Heinemann, V. (2005). Prognostic factors in patients with advanced pancreatic cancer treated with gemcitabine and cisplatin compared to single-agent gemcitabine: Uni- and multivariate analysis of a randomized phase III trial. <i>Onkologie</i> , 28(Suppl 3), 34.	Conference abstract
Boeck, S. H., Jung, A., Laubender, R. P., Neumann, J., Egg, R., Goritschan, C., ... & Gauler, T. C. (2011, May). Molecular markers of the EGFR pathway in erlotinib-treated patients with advanced pancreatic cancer (APC): Translational analyses of a randomized, cross-over AIO phase III trial. In <i>ASCO Annual Meeting Proceedings</i> (Vol. 29, No. 15_suppl, p. 4047).	Conference abstract
Boeck, S., Ankerst, D. P., & Heinemann, V. (2008). The role of adjuvant chemotherapy for patients with resected pancreatic cancer: systematic review of randomized controlled trials and meta-analysis. <i>Oncology</i> , 72(5-6), 314-321.	Review - no additional relevant articles
Boeck, S., Jung, A., Laubender, R. P., Neumann, J., Egg, R., Goritschan, C., ... & Gauler, T. C. (2013). EGFR pathway biomarkers in erlotinib-treated patients with advanced pancreatic cancer: translational results from the randomised, crossover phase 3 trial AIO-PK0104. <i>British journal of cancer</i> , 108(2), 469-476.	Advanced PC patients
Botrel, T. E. A., Clark, O., Clark, L. G. O., Paladini, L., Faleiros, E., & Pegoretti, B. (2010). PCN24 EFFICACY OF ADJUVANT CHEMOTHERAPY WITH GEMCITABINE (GEM) COMPARED TO SURGERY-ONLY IN PATIENTS WITH RESECTED PANCREATIC CANCER: SYSTEMATIC REVIEW (SR) AND METAANALYSIS (MA). <i>Value in Health</i> , 13(7), A255.	Conference abstract
Bramhall, S. R. (2000). Novel non-operative treatment and treatment strategies in pancreatic cancer. <i>Expert opinion on investigational drugs</i> , 9(6), 1179-1195.	Narrative review
Brunner, T. B., Grabenbauer, G. G., Meyer, T., Golcher, H., Sauer, R., & Hohenberger, W. (2007). Primary resection versus neoadjuvant chemoradiation followed by resection for locally resectable or potentially resectable pancreatic carcinoma without distant metastasis. A multi-centre prospectively randomised phase II-study of the Interdisciplinary Working Group Gastrointestinal Tumours (AIO, ARO, and CAO). <i>BMC cancer</i> , 7(1), 1.	Trial protocol
Bukowski, R. M. (1981, January). RANDOMIZED COMPARISON OF 5FU AND MITOMYCIN-C (MF) VERSUS 5FU, MITOMYCIN-C AND STREPTOZOTOCIN (SMF) IN PANCREATIC ADENOCARCINOMA-A SOUTHWEST ONCOLOGY GROUP-STUDY. In <i>PROCEEDINGS OF THE AMERICAN ASSOCIATION</i>	Conference abstract

Study	Reason for exclusion
FOR CANCER RESEARCH (Vol. 22, No. MAR, pp. 453-453). 615 CHESTNUT ST, 17TH FLOOR, PHILADELPHIA, PA 19106-4404 USA: AMER ASSOC CANCER RESEARCH.	
Butturini, G., Stocken, D. D., Wentz, M. N., Jeekel, H., Klinkenbijn, J. H., Bakkevold, K. E., ... & Büchler, M. W. (2008). Influence of resection margins and treatment on survival in patients with pancreatic cancer: meta-analysis of randomized controlled trials. <i>Archives of Surgery</i> , 143(1), 75-83.	Meta-analysis of influence of resection margins on survival
Cantore, M., Fiorentini, G., Luppi, G., Rosati, G., Caudana, R., Piazza, E., ... & Del Frio, A. (2003). Randomised trial of gemcitabine versus flec regimen given intra-arterially for patients with unresectable pancreatic cancer. <i>J Exp Clin Cancer Res</i> , 22(4 Suppl), 51-57.	Duplicate
Chames, P., Kerfelec, B., & Baty, D. (2010). Therapeutic antibodies for the treatment of pancreatic cancer. <i>The Scientific World Journal</i> , 10, 1107-1120.	Review - no additional relevant articles
Chaulagain, C. P., Ng, J., Wazer, D., & Saif, M. W. (2012). Adjuvant therapy of pancreatic cancer. <i>JOP. Journal of the Pancreas</i> , 13(4), 349-353.	Conference discussion
Chaulagain, C. P., Rothschild, J., & Saif, M. W. (2013). Is S-1 a Potential Game Changer in Adjuvant Therapy of Pancreatic Cancer?. <i>JOP. Journal of the Pancreas</i> , 14(4), 329-333.	Conference discussion
Chua, Y. J., & Cunningham, D. (2005). Adjuvant treatment for resectable pancreatic cancer. <i>Journal of clinical oncology</i> , 23(20), 4532-4537.	Review - no additional relevant articles
Collins, A., & Bloomston, M. (2009). Diagnosis and management of pancreatic cancer. <i>Minerva gastroenterologica e dietologica</i> , 55(4), 445.	General review of PC diagnosis and management - no additional relevant articles
Cullinan, S., Moertel, C., Fleming, T., Everson, L., Krook, J., & Schutt, A. (1984). A randomized comparison of 5-FU alone (F), 5-FU and adriamycin (FA), and 5-FU+ adriamycin+ mitomycin C (FAM) in gastric and pancreatic cancer. In <i>Proc ASCO</i> (Vol. 3, p. 137).	Conference abstract
D'Angelo, F. A., Antolino, L., La Rocca, M., Petrucciani, N., Magistri, P., Aurello, P., & Ramacciato, G. (2016). Adjuvant and neoadjuvant therapies in resectable pancreatic cancer: a systematic review of randomized controlled trials. <i>Medical Oncology</i> , 33(3), 1-9.	Review - no additional relevant articles
Du, L., DeFoe, M., Ruzinova, M. B., Olsen, J. R., & Wang-Gillam, A. (2015). Perioperative Therapy for Surgically Resectable Pancreatic Adenocarcinoma. <i>Hematology/oncology clinics of North America</i> , 29(4), 717-726.	Review - no additional relevant articles
Erdmann, J. I., Eskens, F. A. L. M., Vollmer, C. M., Kok, N. F., Koerkamp, B. G., Biermann, K., & van Eijck, C. H. J. (2015). Histological and Molecular Subclassification of Pancreatic and Nonpancreatic Periapillary Cancers: Implications for (Neo) Adjuvant Systemic Treatment. <i>Annals of surgical oncology</i> , 22(7), 2401-2407.	Review of nonpancreatic periapillary cancers
Erdmann, J. I., Morak, M. J., Duivenvoorden, H. J., Dekken, H., Kazemier, G., Kok, N. F., & Eijck, C. H. (2015). Long-term survival after resection for non-pancreatic periapillary cancer followed by adjuvant intra-arterial chemotherapy and concomitant radiotherapy. <i>HPB</i> , 17(7), 573-579.	chemoradiotherapy vs obs only study
Farnell, M. B., Pearson, R. K., Sarr, M. G., DiMagno, E. P., Burgart, L. J., Dahl, T. R., ... & Pancreas Cancer Working Group. (2005). A prospective randomized trial comparing standard pancreatoduodenectomy with pancreatoduodenectomy with extended lymphadenectomy in resectable pancreatic head adenocarcinoma. <i>Surgery</i> , 138(4), 618-630.	No adjuvant therapies - resected patients
Farrell, J. J., Bae, K., Wong, J., Guha, C., Dicker, A. P., & Elsaleh, H. (2012). Cytidine deaminase single-nucleotide polymorphism is predictive of toxicity	Genetics study

Study	Reason for exclusion
from gemcitabine in patients with pancreatic cancer: RTOG 9704. The pharmacogenomics journal, 12(5), 395-403.	
Fenchel, S., Fleiter, T. R., Aschoff, A. J., Van Gessel, R., Brambs, H. J., & Merkle, E. M. (2014). Effect of iodine concentration of contrast media on contrast enhancement in multislice CT of the pancreas. The British journal of radiology.	No relevant intervention
Fisher, S. B., Patel, S. H., Bagci, P., Kooby, D. A., El-Rayes, B. F., Staley, C. A., ... & Maithel, S. K. (2013). An analysis of human equilibrative nucleoside transporter-1, ribonucleoside reductase subunit M1, ribonucleoside reductase subunit M2, and excision repair cross-complementing gene-1 expression in patients with resected pancreas adenocarcinoma. Cancer, 119(2), 445-453.	No comparison group
Friess, H., Buchler, M., Schultheiss, K. H., Gebhard, C., Muhrer, K. H., Winkelmann, M., . . . Beger, H. G. (1991). Monoclonal antibody treatment of resectable pancreatic cancer: results from a multicentric controlled randomized trial. European journal of cancer, 27(Supp. 2), S71.	Conference abstract
Garofalo, M., Flannery, T., & Regine, W. (2006). The case for adjuvant chemoradiation for pancreatic cancer. Best Practice & Research Clinical Gastroenterology, 20(2), 403-416.	Narrative review
Ghatalia, P., Morgan, C. J., Choueiri, T. K., Rocha, P., Naik, G., & Sonpavde, G. (2015). Pancreatitis with vascular endothelial growth factor receptor tyrosine kinase inhibitors. Critical reviews in oncology/hematology, 94(1), 136-145.	Pancreatitis study
Hagihara, A., Hiraoka, S., Ikeda, M., Ueno, H., Machej, J. R., Okusaka, T., ... & Esaki, M. (2009, November). hENT 1 Expression Might Be a Useful Biomarker to Predict Prognosis in Patients With Resected Pancreatic Cancer. In Pancreas (Vol. 38, No. 8, pp. 999-1000). 530 WALNUT ST, PHILADELPHIA, PA 19106-3621 USA: LIPPINCOTT WILLIAMS & WILKINS.	No relevant data
Haller, D. G. (2003). Chemotherapy for advanced pancreatic cancer. International Journal of Radiation Oncology* Biology* Physics, 56(4), 16-23.	Review - no additional relevant articles
Hanna, N., Yovino, S., Pandya, N., Horiba, N., Hausner, P., Darwin, P., ... & Alexander, H. (2010, February). Improved Survival in Patients with Resected T1-3 N0-1 Pancreatic Adenocarcinoma Using Adjuvant Conformal or Intensity Modulated Chemoradiation and Intravenous Gemcitabine. In ANNALS OF SURGICAL ONCOLOGY (Vol. 17, pp. S69-S69). 233 SPRING ST, NEW YORK, NY 10013 USA: SPRINGER.	Conference abstract
Hattangadi, J. A., Hong, T. S., Yeap, B. Y., & Mamon, H. J. (2009). Results and patterns of failure in patients treated with adjuvant combined chemoradiation therapy for resected pancreatic adenocarcinoma. Cancer, 115(16), 3640-3650.	Not RCT
Heinemann, V. (2002, December). Gemcitabine in the treatment of advanced pancreatic cancer: a comparative analysis of randomized trials. In Seminars in oncology (Vol. 29, No. 6, pp. 9-16). WB Saunders.	Review - no additional relevant articles
Heinemann, V., Hoehler, T., Seipelt, G., Wein, A., Golf, A., Mahlberg, R., ... & Hochhaus, A. (2005, October). Randomized comparison of capecitabine plus oxaliplatin (CapOx) versus capecitabine plus gemcitabine (CapGem) versus gemcitabine plus oxaliplatin (GemOx) in advanced pancreatic cancer. In EJC SUPPLEMENTS (Vol. 3, No. 2, pp. 209-209). THE BOULEVARD, LANGFORD LANE, KIDLINGTON, OXFORD OX5 1GB, ENGLAND: PERGAMON-ELSEVIER SCIENCE LTD.	Conference abstract
Heinrich, S., Pestalozzi, B., Lesurtel, M., Berrevoet, F., Laurent, S., Delpero, J. R., ... & Weber, A. (2011). Adjuvant gemcitabine versus NEOadjuvant gemcitabine/oxaliplatin plus adjuvant gemcitabine in resectable pancreatic cancer: a randomized multicenter phase III study (NEOPAC study). BMC cancer, 11(1), 1.	Trial protocol - resected patients
Hirota, M., & Ogawa, M. (2014). No-touch pancreatotomy for invasive ductal carcinoma of the pancreas. JOP. Journal of the Pancreas, 15(3), 243-249.	No relevant intervention

Study	Reason for exclusion
Hishinuma, S., Ogata, Y., Tomikawa, M., Ozawa, I., Inoue, K., Katano, S., & Tsukiyama, I. (2005). Prophylactic hepatic irradiation following curative resection of pancreatic cancer. <i>Journal of hepato-biliary-pancreatic surgery</i> , 12(3), 235-242.	No comparison group
Imamura, M., Doi, R., Imaizumi, T., Funakoshi, A., Wakasugi, H., Sunamura, M., ... & Hosotani, R. (2004). A randomized multicenter trial comparing resection and radiochemotherapy for resectable locally invasive pancreatic cancer. <i>Surgery</i> , 136(5), 1003-1011.	No relevant comparison group
Iott, M. J., Corsini, M. M., & Miller, R. C. (2008). Evidence-based guidelines for adjuvant therapy for resected adenocarcinoma of the pancreas. <i>Clinical journal of oncology nursing</i> , 12(4), 599.	Review - no additional relevant articles
Jang, J. Y., Kang, M. J., Heo, J. S., Choi, S. H., Choi, D. W., Park, S. J., ... & Kim, S. G. (2014). A prospective randomized controlled study comparing outcomes of standard resection and extended resection, including dissection of the nerve plexus and various lymph nodes, in patients with pancreatic head cancer. <i>Annals of surgery</i> , 259(4), 656-664.	No relevant intervention
Jeekel, J. (1997). Adjuvant or neoadjuvant therapy for pancreatic carcinoma?. <i>Digestion</i> , 58(6), 533-535.	Discussion article
Johnstone, P. A., & Sindelar, W. F. (1993). Patterns of disease recurrence following definitive therapy of adenocarcinoma of the pancreas using surgery and adjuvant radiotherapy: correlations of a clinical trial. <i>International Journal of Radiation Oncology* Biology* Physics</i> , 27(4), 831-834.	Radiotherapy study
Kaido, T. (2004). Randomized controlled trials on hepato-biliary-pancreatic surgery. <i>Journal of hepato-biliary-pancreatic surgery</i> , 11(6), 381-389.	Review of surgery interventions
Kaiser, M. H., & Ellenberg, S. S. (1985). Pancreatic cancer: adjuvant combined radiation and chemotherapy following curative resection. <i>Archives of surgery</i> , 120(8), 899-903.	chemoradiotherapy vs obs only study
Khanna, A., Walker, G. R., Livingstone, A. S., Arheart, K. L., Rocha-Lima, C., & Koniaris, L. G. (2006). Is adjuvant 5-FU-based chemoradiotherapy for resectable pancreatic adenocarcinoma beneficial? A meta-analysis of an unanswered question. <i>Journal of gastrointestinal surgery</i> , 10(5), 689-697.	Meta-analysis - no additional relevant articles
Klapdor, R., Lehmann, U., Kloppel, G., Schreiber, H. W., & Greten, H. (1982, January). PALLI	Conference abstract
Kleeff, J., Michalski, C., Friess, H., & Büchler, M. W. (2006). Pancreatic cancer: from bench to 5-year survival. <i>Pancreas</i> , 33(2), 111-118.	Discussion article
Klinkenbijn, J. H., Jeekel, J., Sahmoud, T., van Pel, R., Couvreur, M. L., Veenhof, C. H., ... & Wils, J. (1999). Adjuvant radiotherapy and 5-fluorouracil after curative resection of cancer of the pancreas and periampullary region: phase III trial of the EORTC gastrointestinal tract cancer cooperative group. <i>Annals of surgery</i> , 230(6), 776.	chemoradiotherapy vs obs only study
Kosuge, T. (2010). Randomized controlled trials of adjuvant chemotherapy for resectable pancreatic cancer - experience of the Japanese study group of adjuvant therapy for pancreatic cancer (JSAP). <i>Pancreatology</i> , 10, 33. doi: http://dx.doi.org/10.1159/000315044	Narrative review
Lau, W. Y., & Lai, E. C. (2008). Development and controversies of adjuvant therapy for pancreatic cancer. <i>Hepatobiliary Pancreat Dis Int</i> , 7(2), 121-5.	Review - no additional relevant articles
Liao, W. C., Chien, K. L., Lin, Y. L., Wu, M. S., Lin, J. T., Wang, H. P., & Tu, Y. K. (2013). Adjuvant treatments for resected pancreatic adenocarcinoma: a systematic review and network meta-analysis. <i>The Lancet Oncology</i> , 14(11), 1095-1103.	No additional data; NMA scope too narrow
Loi, S., Findlay, M., & Zalcborg, J. (2005). Evidence-Based Adjuvant Treatment of Resectable Pancreatic Adenocarcinoma. <i>American journal of cancer</i> , 4(3), 159-168.	Review - no additional relevant articles

Study	Reason for exclusion
Loos, M., Kleeff, J., Friess, H., & Büchler, M. W. (2008). Approaches to localized pancreatic cancer. <i>Current oncology reports</i> , 10(3), 212-219.	Review - no additional relevant articles
Lowery, M. A., & O'Reilly, E. M. (2012). Genomics and pharmacogenomics of pancreatic adenocarcinoma. <i>The pharmacogenomics journal</i> , 12(1), 1-9.	Pharmacogenomics review
Lygidakis, N. J., & Stringaris, K. (1995). Adjuvant therapy following pancreatic resection for pancreatic duct carcinoma: a prospective randomized study. <i>Hepato-gastroenterology</i> , 43(9), 671-680.	Not available
Lygidakis, N. J., Berberabe, A. E., Spentzouris, N., Dedemadi, G., Kalligas, T., Loukas, G., & Sotiropoulou, V. (1997). A prospective randomized study using adjuvant locoregional chemoimmunotherapy in combination with surgery for pancreatic carcinoma. <i>Hepato-gastroenterology</i> , 45(24), 2376-2381.	Allocation to chemotherapy vs no chemotherapy groups not randomized
Lygidakis, N. J., Singh, G., Bardaxoglou, E., Dedemadi, G., Sgourakis, G., Nestoridis, J., ... & Alamani, M. (2003). Mono-bloc total spleno-pancreaticoduodenectomy for pancreatic head carcinoma with portal-mesenteric venous invasion. A prospective randomized study. <i>Hepato-gastroenterology</i> , 51(56), 427-433.	No relevant comparison group
Lygidakis, N. J., Spentzouris, N., Theodoropoulos, M., Dedemadi, G., Gemos, K., & Kyriakou, A. (1997). Pancreatic resection for pancreatic carcinoma combined with neo-and adjuvant locoregional targeting immunotherapy--a prospective randomized study. <i>Hepato-gastroenterology</i> , 45(20), 396-403.	Intervention group mixed neoadjuvant and adjuvant therapy
Maeda, A., Boku, N., Fukutomi, A., Kondo, S., Kinoshita, T., Nagino, M., & Uesaka, K. (2008). Randomized phase III trial of adjuvant chemotherapy with gemcitabine versus S-1 in patients with resected pancreatic cancer: Japan Adjuvant Study Group of Pancreatic Cancer (JASPAC-01). <i>Japanese journal of clinical oncology</i> , 38(3), 227-229.	Trial protocol
Magee, C. J., Ghaneh, P., & Neoptolemos, J. P. (2002). Surgical and medical therapy for pancreatic carcinoma. <i>Best Practice & Research Clinical Gastroenterology</i> , 16(3), 435-455.	Review - no additional relevant articles
Manuyakorn, A., Paulus, R., Farrell, J., Dawson, N. A., Tze, S., Cheung-Lau, G., ... & Kurdستاني, S. K. (2010). Cellular histone modification patterns predict prognosis and treatment response in resectable pancreatic adenocarcinoma: results from RTOG 9704. <i>Journal of Clinical Oncology</i> , 28(8), 1358-1365.	Not RCT
Marten, A. (2008). Immunotherapy of pancreatic carcinoma. <i>Reviews on recent clinical trials</i> , 3(2), 121-125.	No relevant RCT trials
Märten, A., Büchler, M. W., & Schmidt, J. (2007). Radiochemoimmunotherapy for pancreatic cancer. <i>The American Journal of Surgery</i> , 194(4), S138-S142.	Discussion article
Märten, A., Wente, M. N., Ose, J., Büchler, M. W., Rötzer, I., Decker-Baumann, C., ... & Jäger, D. (2009). An open label randomized multicentre phase IIIb trial comparing parenteral substitution versus best supportive nutritional care in subjects with pancreatic adenocarcinoma receiving 5-FU plus oxaliplatin as 2nd or higher line chemotherapy regarding clinical benefit-PANUSCO. <i>BMC cancer</i> , 9(1), 1.	Trial protocol
McAllister, F., Pineda, D. M., Jimbo, M., Lal, S., Burkhart, R. A., Moughan, J., ... & Lankapalli, R. H. (2014). dCK expression correlates with 5-fluorouracil efficacy and HuR cytoplasmic expression in pancreatic cancer: A dual-institutional follow-up with the RTOG 9704 trial. <i>Cancer biology & therapy</i> , 15(6), 688-698.	Prognostic study of RCT
McCaighy, S. (2014). What type of patients with lesions of the pancreas and spine are suitable candidates for treatment with the CyberKnife robotic radiosurgical system?. <i>Journal of Radiotherapy in Practice</i> , 13(01), 106-114.	No relevant intervention
Moore, M., Andersen, J., Burris, H., Tarassoff, P., Green, M., Casper, E., . . .	Conference

Study	Reason for exclusion
Nelson, R. (1995). A randomized trial of gemcitabine (GEM) versus 5FU as first-line therapy in advanced pancreatic cancer. <i>Proc-Annu-Meet-Am-Soc-Clin-Oncol</i> , 14, Abs. A473. Retrieved from http://onlinelibrary.wiley.com/o/cochrane/clcentral/articles/542/CN-00355542/frame.html	abstract
Morak, M. J., Pek, C. J., Kompanje, E. J., Hop, W. C., Kazemier, G., & van Eijck, C. H. (2010). Quality of life after adjuvant intra-arterial chemotherapy and radiotherapy versus surgery alone in resectable pancreatic and periampullary cancer. <i>Cancer</i> , 116(4), 830-836.	Quality of life data for Morak 2008
Morak, M. J., van der Gaast, A., Incrocci, L., van Dekken, H., Hermans, J. J., Jeekel, J., ... & van Eijck, C. H. (2008). Adjuvant intra-arterial chemotherapy and radiotherapy versus surgery alone in resectable pancreatic and periampullary cancer: a prospective randomized controlled trial. <i>Annals of surgery</i> , 248(6), 1031-1041.	chemoradiotherapy vs obs only study
Moyer, M. T., Dye, C. E., Sharzei, S., Ancrile, B., Mathew, A., McGarrity, T. J., ... & Dougherty-Hamod, B. (2016). Is alcohol required for effective pancreatic cyst ablation? The prospective randomized CHARM trial pilot study. <i>Endoscopy international open</i> , 4(05), E603-E607.	Pancreatic cyst patients
Moyer, M. T., Sharzei, S., Dye, C. E., El-Deiry, W., MCGarrity, T. J., Mathew, A., ... & Ancrile, B. (2014). Mo1386 The CHARM Trial (ChEMotherapy for aBlation and REsolution of MUCinous Pancreatic Cysts): the Initial Pilot Study for the Prospective, Randomized, Double-Blind, Single-Center Clinical Trial. <i>Gastrointestinal Endoscopy</i> , 79(5), AB418.	Pancreatitis study
Neoptolemos, J. P. (1998). Adjuvant radiotherapy and follow-on chemotherapy in patients with pancreatic cancer. Results of the UK Pancreatic Cancer Group Study (UKPACA-1). <i>GI cancer</i> , 2(3), 235-245.	Not RCT
Neoptolemos, J. P. (2012). Adjuvant therapy in resected pancreatic cancer. <i>European Journal of Cancer</i> , 48, S4.	Conference abstract
Neoptolemos, J. P. B. M., Buchler, M., Stocken, D. D., Ghaneh, P., Smith, D., Bassi, C., ... & Goldstein, D. (2009, June). ESPAC-3 (v2): A multicenter, international, open-label, randomized, controlled phase III trial of adjuvant 5-fluorouracil/folinic acid (5-FU/FA) versus gemcitabine (GEM) in patients with resected pancreatic ductal adenocarcinoma. In <i>ASCO Annual Meeting Proceedings (Vol. 27, No. 18S, p. LBA4505)</i> .	Conference abstract/Duplicate of Neoptolemos 2010
Neoptolemos, J. P., Baker, P., Beger, H., Link, K., Pederzoli, P., Bassi, C., ... & Büchler, M. (1997). Progress report: A randomized multicenter European study comparing adjuvant radiotherapy, 6 Mo chemotherapy, and combination therapy vs No-adjuvant treatment in resectable pancreatic cancer (ESPAC-1). <i>International Journal of Gastrointestinal Cancer</i> , 21(2), 97-104.	Interim results for ESPAC-1
Neoptolemos, J. P., Cunningham, D., Friess, H., Bassi, C., Stocken, D. D., Tait, D. M., ... & Raraty, M. G. T. (2003). Adjuvant therapy in pancreatic cancer: historical and current perspectives. <i>Annals of Oncology</i> , 14(5), 675-692.	Review - no additional relevant articles
Neoptolemos, J. P., Dunn, J. A., Moffitt, D. D., Almond, J., Beger, H. G., Link, K. H., ... & Lacaine, F. (2000, July). ESPAC-1 interim results: A European, randomised study to assess the roles of adjuvant chemotherapy (5 FU plus folinic acid) and adjuvant chemoradiation (40 Gy plus 5 FU) in resectable pancreatic cancer. In <i>BRITISH JOURNAL OF CANCER (Vol. 83, pp. 1-1)</i> . JOURNAL PRODUCTION DEPT, ROBERT STEVENSON HOUSE, 1-3 BAXTERS PLACE, LEITH WALK, EDINBURGH EH1 3AF, MIDLOTHIAN, SCOTLAND: CHURCHILL LIVINGSTONE.	Interim results for ESPAC-1
Neoptolemos, J. P., Dunn, J. A., Stocken, D. D., Almond, J., Link, K., Beger, H., ... & Fernandez-Cruz, L. (2001). Adjuvant chemoradiotherapy and chemotherapy in resectable pancreatic cancer: a randomised controlled trial. <i>The Lancet</i> , 358(9293), 1576-1585.	Interim results for ESPAC-1, final results reported in Neoptolemos 2004

Study	Reason for exclusion
Neoptolemos, J. P., Kerr, D. J., Beger, H., Link, K., Pederzoli, P., Bassi, C., ... & Büchler, M. (1997). ESPAC-1 trial progress report: the European randomized adjuvant study comparing radiochemotherapy, 6 months chemotherapy and combination therapy versus observation in pancreatic cancer. <i>Digestion</i> , 58(6), 570-577.	Interim results for ESPAC-1
Neoptolemos, J., Moore, M., Cox, T., Valle, J., Palmer, D., Mcdonald, A., ... & Glimelius, B. (2011, November). Periampullary Cancer ESPAC-3 (v2) trial: a Randomised Controlled Phase III Trial of Adjuvant Chemotherapy Versus Observation in Patients With Periampullary Adenocarcinomas of the Head of the Pancreas. In <i>PANCREAS</i> (Vol. 40, No. 8, pp. 1343-1343). 530 WALNUT ST, PHILADELPHIA, PA 19106-3621 USA: LIPPINCOTT WILLIAMS & WILKINS.	Conference abstract
Neoptolemos, J. P., Stocken, D. D., Dunn, J. A., Almond, J., Beger, H. G., Pederzoli, P., ... & Buckels, J. (2001). Influence of resection margins on survival for patients with pancreatic cancer treated by adjuvant chemoradiation and/or chemotherapy in the ESPAC-1 randomized controlled trial. <i>Annals of surgery</i> , 234(6), 758-768.	Influence of resection margins on survival in patients from ESPAC-1
Neuzillet, C., Vergnault, M., Bonnetain, F., & Hammel, P. (2015). Rationale and design of the Adapted Physical Activity in advanced Pancreatic Cancer patients (APACaP) GERCOR (Groupe Coopérateur Multidisciplinaire en Oncologie) trial: study protocol for a randomized controlled trial. <i>Trials</i> , 16(1), 1.	Trial protocol
Niyikiza, C., Andersen, J. S., Tarassoff, P. G., Rothenberg, M. L., Seitz, D. E., Nelson, R. L., ... & Storniolo, A. M. (1996). Prognostic factors in a randomized trial of Gemcitabine (GEM) versus 5-FU as first-line therapy in advanced pancreatic cancer and in pancreatic cancer patients failing 5-FU who received gemcitabine as a palliative therapy. In <i>Proc Am Soc Clin Oncol</i> (Vol. 15, No. 32, p. A506).	Conference abstract
O'Reilly, E. M. (2011). Adjuvant therapy for pancreas adenocarcinoma: where are we going?. <i>Expert review of anticancer therapy</i> , 11(2), 173-177.	Review - no additional relevant articles
Oettle, H., & Riess, H. (2002). Gemcitabine in combination with 5-fluorouracil with or without folinic acid in the treatment of pancreatic cancer. <i>Cancer</i> , 95(S4), 912-922.	Gemcitabine/5-FU review - no additional relevant articles
Oettle, H., Neuhaus, P., Roll, L., Post, S., Gellert, K., Ridwelski, K., Schramm, H., Zulke, C., Fahlike, G., Langrehr, J., Riess, H. (2005). Adjuvant chemotherapy with gemcitabine vs. observation in patients with resected pancreatic cancer - A randomized, prospective, multicenter phase III study (CONKO-001). <i>Onkologie</i> , 28(Suppl 3), 1.	Conference abstract
Ouchi, J., Hijioka, M., Harada, S., Maruyama, Y., & Funakoshi, A. (2008). GEMCITABINE AND S-1 COMBINATION THERAPY IN PATIENTS WITH ADVANCED STAGE OF PANCREATIC CANCER. <i>Pancreas</i> , 37(4), 488.	Conference abstract
Pelzer, U., Helm, A., Niedergethmann, M., Schmidt-Wolf, I., Moik, M., Hammer, C., Zippel, K., Weigang-Kohler, K., Stauch, M., Riess, H., Oettle, H. (2005). A randomized, prospective, multicenter, phase III trial of gemcitabine, 5-fluorouracil, folinic acid vs. gemcitabine alone in patients with advanced pancreatic cancer (CONKO 002). <i>Onkologie</i> , 28(Suppl 3), 34.	Conference abstract
Pelzer, U., Hilbig, A., Stieler, J., Roll, L., Stauch, M., Opitz, B., ... & Oettle, H. (2006, June). A prospective, randomized trial of simultaneous pancreatic cancer treatment with enoxaparin and chemotherapy (PROSPECT-CONKO 004). In <i>ASCO Annual Meeting Proceedings</i> (Vol. 24, No. 18_suppl, p. 4110).	Conference abstract
Pelzer, U., Roll, L., Stieler, J., Hilbig, A., Schwaner, I., Adler, M., Detken, S., Dorken, B., Riess, H., Oettle, H. (2005). A randomized, prospective phase III second line trial of patients with gemcitabine resistant advanced pancreatic cancer (CONKO 003). <i>Onkologie</i> , 28(Suppl 3), 54.	Conference abstract

Study	Reason for exclusion
Petit, S. F., Wu, B., Kazhdan, M., Dekker, A., Simari, P., Kumar, R., ... & McNutt, T. (2012). Increased organ sparing using shape-based treatment plan optimization for intensity modulated radiation therapy of pancreatic adenocarcinoma. <i>Radiotherapy and Oncology</i> , 102(1), 38-44.	No relevant intervention
Petrelli, F., Borgonovo, K., Ghilardi, M., Cabiddu, M., & Barni, S. (2010). What else in gemcitabine-pretreated advanced pancreatic cancer? An update of second line therapies. <i>Reviews on recent clinical trials</i> , 5(1), 43-56.	Review - no additional relevant articles
Ramacciato, G., Mercantini, P., Petrucciani, N., Nigri, G. R., Kazemi, A., Muroni, M., ... & Ravaioli, M. (2011). Risk factors of pancreatic fistula after pancreaticoduodenectomy: a collective review. <i>The American surgeon</i> , 77(3), 257-269.	Pancreatic fistula study
Riess, H., Neuhaus, P., Post, S., Gellert, K., Ridwelski, K., Schramm, H., . . . Oettle, H. (2008). CONKO-001: Final results of the randomized, prospective, multicenter phase iii trial of adjuvant chemotherapy with gemcitabine versus observation in patients with resected pancreatic cancer (PC). <i>Annals of Oncology</i> , 19 (S8), viii45-viii46.	Trial protocol
Rudloff, U., Maker, A. V., Brennan, M. F., & Allen, P. J. (2010). Randomized clinical trials in pancreatic adenocarcinoma. <i>Surgical oncology clinics of North America</i> , 19(1), 115-150.	General review of PC RCTs - no additional relevant articles
Rutter, C. E., Park, H. S., Corso, C. D., Lester-Coll, N. H., Mancini, B. R., Yeboa, D. N., & Johung, K. L. (2015). Addition of radiotherapy to adjuvant chemotherapy is associated with improved overall survival in resected pancreatic adenocarcinoma: An analysis of the National Cancer Data Base. <i>Cancer</i> , 121(23), 4141-4149.	Not RCT
Saif, M. W. (2014). Advanced stage pancreatic cancer: novel therapeutic options. <i>Expert review of clinical pharmacology</i> , 7(4), 487-498.	Narrative review
Schaeffer, D. F., Assi, K., Chan, K., Buczkowski, A. K., Chung, S. W., Scudamore, C. H., ... & Owen, D. A. (2010). Tumor expression of integrin-linked kinase (ILK) correlates with the expression of the E-cadherin repressor snail: an immunohistochemical study in ductal pancreatic adenocarcinoma. <i>Virchows Archiv</i> , 456(3), 261-268.	No comparison group
Shen, Z. T., Wu, X. H., Wang, L., Li, B., & Zhu, X. X. (2015). Effects of gemcitabine on radiosensitization, apoptosis, and Bcl-2 and Bax protein expression in human pancreatic cancer xenografts in nude mice. <i>Genetics and Molecular Research</i> , 14(4), 15587-15596.	Animal study
Siddiqui, U. D., Rossi, F., Rosenthal, L. S., Padda, M. S., Murali-Dharan, V., & Aslanian, H. R. (2009). EUS-guided FNA of solid pancreatic masses: a prospective, randomized trial comparing 22-gauge and 25-gauge needles. <i>Gastrointestinal endoscopy</i> , 70(6), 1093-1097.	Diagnostic yield study
Sinn, M., Denkert, C., Striefler, J. K., Pelzer, U., Stieler, J. M., Bahra, M., ... & Sinn, B. V. (2014). α -Smooth muscle actin expression and desmoplastic stromal reaction in pancreatic cancer: results from the CONKO-001 study. <i>British journal of cancer</i> , 111(10), 1917-1923.	No relevant intervention
Sinn, M., Riess, H., Sinn, B. V., Stieler, J. M., Pelzer, U., Striefler, J. K., ... & Lohneis, P. (2015). Human equilibrative nucleoside transporter 1 expression analysed by the clone SP 120 rabbit antibody is not predictive in patients with pancreatic cancer treated with adjuvant gemcitabine—Results from the CONKO-001 trial. <i>European Journal of Cancer</i> , 51(12), 1546-1554.	Not RCT
Sinn, M., Sinn, B. V., Striefler, J. K., Lindner, J. L., Stieler, J. M., Lohneis, P., ... & Dietel, M. (2014). SPARC expression in resected pancreatic cancer patients treated with gemcitabine: results from the CONKO-001 study. <i>Annals of Oncology</i> , 25(5), 1025-1032.	No relevant intervention
Sinn, M., Striefler, J., Bahra, M., Liersch, T., Gellert, K., Stieler, J., ... & Oettle, H. (2011, September). CONKO-006: A randomized double-blinded phase IIb-	Conference abstract

Study	Reason for exclusion
study of additive therapy with Gemcitabine plus Sorafenib/Placebo for patients with R1-resection of pancreatic cancer-an interim analysis. In ONKOLOGIE (Vol. 34, pp. 59-59). ALLSCHWILERSTRASSE 10, CH-4009 BASEL, SWITZERLAND: KARGER.	
Smeenk, H. G., van Eijck, C. H., Hop, W. C., Erdmann, J., Tran, K. C., Debois, M., ... & Jeekel, J. (2007). Long-term survival and metastatic pattern of pancreatic and periampullary cancer after adjuvant chemoradiation or observation: long-term results of EORTC trial 40891. <i>Annals of surgery</i> , 246(5), 734-740.	chemoradiotherapy vs obs only study
Sorg, C., Schmidt, J., Büchler, M. W., Edler, L., & Märten, A. (2009). Examination of external validity in randomized controlled trials for adjuvant treatment of pancreatic adenocarcinoma. <i>Pancreas</i> , 38(5), 542-550.	Quality of evidence review
Stocken, D. D., Büchler, M. W., Dervenis, C., Bassi, C., Jeekel, H., Klinkenbijl, J. H. G., ... & Neoptolemos, J. P. (2005). Meta-analysis of randomised adjuvant therapy trials for pancreatic cancer. <i>British journal of cancer</i> , 92(8), 1372-1381.	Meta-analyses, no additional data
Stojadinovic, A., Hoos, A., Brennan, M. F., & Conlon, K. C. (2002). Randomized clinical trials in pancreatic cancer. <i>Surgical oncology clinics of North America</i> , 11(1), 207-229.	General review of PC - no additional relevant articles
Striefler, J. K., Sinn, M., Denkert, C., Pelzer, U., Bischoff, S., Sinn, B., ... & Lohneis, P. (2015, October). P53 overexpression and high tumour proliferation (ki67) are associated with an adverse outcome in ductal pancreatic adenocarcinoma (PDAC) with adjuvant gemcitabine treatment. In <i>Oncology Research and Treatment</i> (Vol. 38, pp. 253-254). ALLSCHWILERSTRASSE 10, CH-4009 BASEL, SWITZERLAND: KARGER.	Conference abstract
Striefler, J. K., Sinn, M., Lohneis, P., Bischoff, S., Pelzer, U., Stieler, J., ... & Sinn, B. (2014, October). Mucin-1 (MUC-1) protein a prognostic marker for pancreatic ductal adenocarcinoma (PDAC): results from the CONKO-001 study. In <i>ONCOLOGY RESEARCH AND TREATMENT</i> (Vol. 37, pp. 86-86). ALLSCHWILERSTRASSE 10, CH-4009 BASEL, SWITZERLAND: KARGER.	No relevant intervention
Sultana, A., Cox, T., Ghaneh, P., & Neoptolemos, J. P. (2012). Adjuvant therapy for pancreatic cancer. In <i>Early Gastrointestinal Cancers</i> (pp. 65-88). Springer Berlin Heidelberg.	Book chapter/recommendations
Tempero, M. A., Cardin, D., Biankin, A., Goldstein, D., Moore, M., O'Reilly, E. M., . . . Lu, B. (2014). Apact: A phase III trial of nab-paclitaxel (nab-P) plus gemcitabine (gem) vs gem alone as adjuvant therapy for patients (pts) with resected pancreatic cancer (PC). <i>Pancreas</i> , 43 (8), 1416. doi:http://dx.doi.org/10.1097/MPA.0000000000000231	Trial protocol
Thomas, A., Dajani, K., Neoptolemos, J. P., & Ghaneh (2010) Adjuvant therapy in pancreatic cancer. <i>Digestive Diseases</i> , 28, 684-692.	Review - no additional relevant articles
van der Zee, J. A., van Eijck, C. H., Hop, W. C., van Dekken, H., Dicheva, B. M., Seynhaeve, A. L., ... & ten Hagen, T. L. (2011). Angiogenesis: a prognostic determinant in pancreatic cancer?. <i>European Journal of Cancer</i> , 47(17), 2576-2584.	No relevant intervention group
Versteijne, E., van Eijck, C. H., Punt, C. J., Suker, M., Zwinderman, A. H., Dohmen, M. A., ... & Albert, J. (2016). Preoperative radiochemotherapy versus immediate surgery for resectable and borderline resectable pancreatic cancer (PREOPANC trial): study protocol for a multicentre randomized controlled trial. <i>Trials</i> , 17(1), 1.	Trial protocol
Wente, Büchler, Friess, & Büchler. (2002). Adjuvant therapy in operable pancreatic cancer. <i>Swiss surgery</i> , 8(2), 74-80.	Review - no additional relevant articles
Williams, T. M., George, A., Regine, W. F., Thomas, D. G., Schaefer, P., Safran, H., ... & Ben-Josef, E. (2012). Caveolin-1 Expression Correlates With Outcomes in Pancreatic Ductal Carcinoma: A Secondary Analysis of RTOG	Conference abstract

Study	Reason for exclusion
9704. International Journal of Radiation Oncology* Biology* Physics, 84(3), S26.	
Woo, H. I., Kim, K. K., Choi, H., Kim, S., Jang, K. T., Yi, J. H., ... & Lee, S. Y. (2012). Effect of genetic polymorphisms on therapeutic response and clinical outcomes in pancreatic cancer patients treated with gemcitabine. <i>Pharmacogenomics</i> , 13(9), 1023-1035.	No comparison group
Xiong, H. Q., Carr, K., & Abbruzzese, J. L. (2006). Cytotoxic chemotherapy for pancreatic cancer. <i>Drugs</i> , 66(8), 1059-1072.	Review - no additional relevant articles
Xu, H., Zhu, X. X., & Chen, J. (2016). DNT cell inhibits the growth of pancreatic carcinoma via abnormal expressions of NKG2D and MICA in vivo. <i>Biochemical and biophysical research communications</i> , 469(2), 145-150.	Animal study
Xu, Y., Xu, S., Cai, Y., & Liu, L. (2015). Qingyihuaji Formula Inhibits Pancreatic Cancer and Prolongs Survival by Downregulating Hes-1 and Hey-1. <i>Evidence-Based Complementary and Alternative Medicine</i> , 2015.	Animal study
Yoshitomi, H., Miyazaki, M., Kimura, F., Shimizu, H., Yoshidome, H., Ohtsuka, M., Kato, A., Furukawa, K., Takeuchi, D., Takayashiki, T., Suda, K., Takano, S., & Kuboki, S. (2010). Randomized trials of adjuvant chemotherapy for patients with resected pancreatic cancer using gemcitabine and/or 5-FU prodrugs. <i>Pancreatology</i> 10(suppl 1), 34.	Conference abstract
Yu, Z., Zhong, W., Tan, Z. M., Wang, L. Y., & Yuan, Y. H. (2015). Gemcitabine adjuvant therapy for resected pancreatic cancer: A meta-analysis. <i>American journal of clinical oncology</i> , 38(3), 322-325.	Meta-analysis of gemcitabine, no additional relevant data

G.151 Follow-up for people with resected pancreatic cancer

Excluded Study	Reason for Exclusion
Abe, T., Nakashima, H., Nakamura, M., Tanaka, M. Metachronous Pancreatic Ductal Adenocarcinoma (PDAC) After Resection of Branch Duct Intraductal Papillary Mucinous Neoplasms 3-Month Interval of Surveillance CT/MR Still Insufficient for Early Detection. <i>Pancreas</i> , 1340, 2014	Case report on 1 patient
Banfi, G., Bravi, S., Ardemagni, A., Zerbi, A. CA 19.9, CA 242 and CEA in the diagnosis and follow-up of pancreatic cancer. <i>International Journal of Biological Markers</i> , 77-81, 1996	Outcomes relevant to specificity and selectivity of the diagnostic test only
Banfi, G., Zerbi, A., Pastori, S., Parolini, D., Di Carlo, V., Bonini, P. Behavior of tumor markers CA19.9, CA195, CAM43, CA242, and TPS in the diagnosis and follow-up of pancreatic cancer. <i>Clinical Chemistry</i> , 420-3, 1993	Outcomes relevant to specificity and selectivity of the diagnostic test only
Barbu, S., Hutanu, I., Andren-Sandberg, A., Soroceanu, R. P., Timofte, D. Monitoring of Recurrence in Patients Radically Operated for Pancreatic Cancer. <i>Revista Medico-Chirurgicala a Societatii de Medici Si Naturalisti Din Iasi</i> , 401-9, 2015.	Not a study, a clinical review
Beretta, E., Malesci, A., Zerbi, A., Mariani, A., Carlucci, M., Bonato, C., Ferrari, A. M., Di Carlo, V. Serum CA 19-9 in the postsurgical follow-up of patients with pancreatic cancer. <i>Cancer</i> 2428-31, 1987.	Outcomes reporting correlation between Ca 19-9 and survival
Castellanos, J. A., Merchant, N. B. Intensity of follow-up after pancreatic cancer resection. <i>Annals of Surgical Oncology</i> 747-51, 2014	Practice Guidelines
Channappa, C., Intenzo, C. M., Pappas, A., Mitchell, E. P., Carr, B., Kim, S. M., Littman, S. The use of FDG-PET CT imaging in follow up of pancreatic cancer. <i>Clinical Nuclear Medicine</i> , 1194, 2012	No outcomes of interest

Excluded Study	Reason for Exclusion
Del Chiaro, M., Segersvard, R., Nilsson, L., Blomberg, J., Rangelova, E., Ansorge, C., Pozzi-Mucelli, R., Kartalis, N., Lohr, M., Arnelo, U., Verbeke, C. Follow-up strategy for IPMN of the pancreas is safe. <i>Pancreas</i> , 1353, 2014	Population = Non surgical IPMN
Del Chiaro, M., Segersvard, R., Nilsson, L., Blomberg, J., Rangelova, E., Ansorge, C., Pozzi-Mucelli, R., Kartalis, N., Lohr, M., Verbeke, C. The safety of follow-up for IPMN of the pancreas: A single institution experience. <i>United European Gastroenterology Journal</i> , A90-91, 2014	Population = Non surgical IPMN
Deobald, R. G., Cheng, E. S., Ko, Y. J., Wright, F. C., Karanicolas, P. J. A qualitative study of patient and clinician attitudes regarding surveillance after a resection of pancreatic and peri-ampullary cancer. <i>HBP</i> , 409-15, 2015	Qualitative study with no intervention
Franke, C., Klapdor, R., Meyerhoff, K., Schauman, M. 18-FDG positron emission tomography of the pancreas: diagnostic benefit in the follow-up of pancreatic carcinoma. <i>Anticancer research</i> , 2437-42, 1999	Population = non-resected and resected, not analysed separately
Gigoni, R., Salemi, S., Boraschi, P., Donati, F., Perrone, V. G., Del Chiaro, M., Boggi, U., Bartolozzi, C., Falaschi, F. Pancreatic intraductal papillary mucinous neoplasms of the branch ducts: Usefulness of MR imaging and MR cholangiopancreatography in the follow-up. <i>Pancreatology</i> , 389, 2010	Population = non-resected and resected, not analysed separately
Jung, W., Jang, J. Y., Kang, M. J., Chang, Y. R., Shin, Y. C., Chang, J., Kim, S. W. The clinical usefulness of 18F-fluorodeoxyglucose positron emission tomography-computed tomography (PET-CT) in follow-up of curatively resected pancreatic cancer patients. <i>HPB</i> , 57-64, 2016	Outcomes relevant to specificity and selectivity of the diagnostic test only
Klapdor, R., Bahlo, M. CA 19-9 AND CEA AS SEROLOGICAL TUMOR MARKERS (TM) FOR THE DIAGNOSIS AND FOLLOW-UP OF EXOCRINE PANCREATIC CANCER (PAPA). <i>Anticancer research</i> , 6830-6831, 2014	Not a study, a clinical review
Klapdor, R., Lehmann, U., Bahlo, M., Schmiegel, W., Guthoff, A., Schreiber, H. W., Greten, H. CA 19-9 AND CEA IN THE FOLLOW-UP OF EXOCRINE PANCREATIC-CANCER DISEASE. <i>Gastroenterology</i> , 1137-1137, 1984	Population = non-resected and resected, not analysed separately
Metz, J. M., Vachani, C., Hampshire, M. K., Hill-Kayser, C. E. Patient-reported outcomes after treatment for cancers of the pancreas and biliary tract. <i>Journal of Clinical Oncology. Conference</i> 2015.	No outcomes of interest, validation of a tool to get information on under-represented survivorship in PC
Micke, O., Bruns, F., Schafer, U., Kurowski, R., Horst, E., Willich, N. CA 19-9 in the therapy monitoring and follow-up of locally advanced cancer of the exocrine pancreas treated with radiochemotherapy. <i>Anticancer research</i> , 835-40, 2003	Population = Not resected
Nagakawa, T., Ohta, T., Kayahara, M., Mori, K., Ueda, S., Kobayashi, K., Ueno, K., Konichi, I., Miyazaki, I. Clinicopathological evaluation of long-term survivors treated for cancer of the head of pancreas. <i>Hepato-gastroenterology</i> , 1865-9, 1998	No outcomes of interest, study of predictor factors for long term survival in PC
Nallamothe, G., Cox, K., Heilbrun, M., Sharma, A., Adler, D. Follow-up CT scans have limited value in patients with pancreatic cancer. <i>American Journal of Gastroenterology</i> , S67, 2013	Population = newly diagnosed PC not resected
Narasimhaiah, R., James, E., Siegmuller, C., Spalding, D., Patel, P. Pre-operative C-reactive protein (CRP) as a prognostic indicator of one year mortality following curative pancreatectomy. <i>Intensive Care Medicine</i> , S275, 2009	Single post-operative CRP values (ICU inpatient) vs mortality outcomes in PC

Excluded Study	Reason for Exclusion
Nordby, T., Hugenschmidt, H., Fagerland, M. W., Ikdahl, T., Buanes, T., Labori, K. J. Follow-up after curative surgery for pancreatic ductal adenocarcinoma: asymptomatic recurrence is associated with improved survival. <i>European Journal of Surgical Oncology</i> , 559-66, 2013	Follow-up of records of asymptomatic vs symptomatic patients and relationship with disease progression
O'Reilly, E. M., Lowery, M. A. Postresection surveillance for pancreatic cancer performance status, imaging, and serum markers. <i>Cancer Journal</i> , 609-13, 2012	Practice guidelines
Pedrazzoli, S., Sperti, C., Pasquali, C., Bissoli, S., Fiore, V., Scelzi, E., Mion, M. 18-FDG PET is very useful in the follow-up after resection of pancreatic and periampullary carcinomas. <i>Gastroenterology</i> , A814-815	No specific follow-up, one off imaging 21 months (range 12-84 months)
Seufferlein, T., Bachet, J. B., Van Cutsem, E., Rougier, P. Pancreatic adenocarcinoma: ESMO-ESDO Clinical Practice Guidelines for diagnosis, treatment and follow-up. <i>Journal of the European Society for Medical Oncology / ESMO</i> , vii33-40, 2012	Practice guidelines
Suzuki, S., Hatori, T., Kimijima, A., Oshima, N., Furukawa, T., Kuboki, Y., Shimizu, K., Shiratori, K., Yamamoto, M. The long-term survivors after curative resection for the pancreatic cancer should be paid attention to the remnant pancreatic cancer. <i>Pancreatology</i> , e77-78, 2013	Retrospective clinical course follow-up with no intervention
Tai, Y. S., Chia, C. L. K., Shelat, V. G., Woon, W. W. L., Low, J. K. Incidental raised ca 19.9: Is long term follow-up beneficial? <i>HPB</i> , e460, 2016	Population = undiagnosed PC in primary care
Tjaden, C., Michalski, C. W., Strobel, O., Giese, N., Hennche, A. K., Buchler, M. W., Hackert, T. Clinical Impact of Structured Follow-up after Pancreatic Surgery. <i>Pancreas</i> , 895-899, 2016	No outcomes of interest
Tzeng, C. W., Abbott, D. E., Cantor, S. B., Fleming, J. B., Lee, J. E., Pisters, P. W., Varadhachary, G. R., Abbruzzese, J. L., Wolff, R. A., Ahmad, S. A., Katz, M. H. Frequency and intensity of postoperative surveillance after curative treatment of pancreatic cancer: a cost-effectiveness analysis. <i>Annals of Surgical Oncology</i> , 2197-203, 2013	Cost-effectiveness analysis
Visser, B. C., Ma, Y., Zak, Y., Poultsides, G. A., Norton, J. A., Rhoads, K. F. Failure to comply with NCCN guidelines for the management of pancreatic cancer compromises outcomes. <i>HPB</i> , 539-47, 2012	Assessing guideline compliance in PC
Weden, S., Klemp, M., Gladhaug, I. P., Moller, M., Eriksen, J. A., Gaudernack, G., Buanes, T. Long-term follow-up of patients with resected pancreatic cancer following vaccination against mutant K-ras. <i>International Journal of Cancer</i> , 1120-8, 2011	10-year follow-up of K-ras vaccination post phase I/II trial. Unlicensed in U.K.
Yamamoto, T., Kinoshita, H., Sakamoto, Y., Okada, K., Inoguchi, K., Yao, S., Kaihara, S., Hosotani, R., Yagi, S. Long-term survival after resection of pancreatic cancer: Significance of early detection and histologically curative resection. <i>HBP</i> , 71, 2014	No intervention, study of predictor factors for long term survival in PC

G.16¹ Management of locally advanced pancreatic cancer

Study	Reason for exclusion
Abou-Alfa GK, Letourneau R, Harker G, Modiano M, Hurwitz H, et al. Randomized phase III study of exatecan and gemcitabine compared with gemcitabine alone in untreated advanced pancreatic cancer. <i>J Clin Oncol</i> . 2006 Sep 20;24(27):4441-7.	mixed population including metastatic patients
Aigner KR, Gailhofer S, Kopp S. Regional versus systemic chemotherapy for advanced pancreatic cancer: a randomized study. <i>Hepatogastroenterology</i> . 1998 Jul-Aug;45(22):1125-9.	mixed population including metastatic patients

Study	Reason for exclusion
Ambe C, Fulp W, Springett G, Hoffe S, Mahipal A. A Meta-analysis of Randomized Clinical Trials of Chemoradiation Therapy in Locally Advanced Pancreatic Cancer. <i>J Gastrointest Cancer</i> . 2015 Sep;46(3):284-90.	Systematic review not relevant to PICO: references have been checked
Bernhard J, Dietrich D, Scheithauer W, Gerber D, Bodoky G, et al. Clinical benefit and quality of life in patients with advanced pancreatic cancer receiving gemcitabine plus capecitabine versus gemcitabine alone: a randomized multicenter phase III clinical trial--SAKK 44/00-CECOG/PAN13001. <i>J Clin Oncol</i> . 2008 Aug 1;26(22):3695-701.	mixed population including metastatic patients
Bramhall SR, Schulz J, Nemunaitis J, Brown PD, Baillet M, et al. A double-blind placebo-controlled, randomised study comparing gemcitabine and marimastat with gemcitabine and placebo as first line therapy in patients with advanced pancreatic cancer. <i>Br J Cancer</i> . 2002 Jul 15;87(2):161-7.	mixed population including metastatic patients
Bukowski RM, Balcerzak SP, O'Bryan RM, Bonnet JD, Chen TT. Randomized trial of 5-fluorouracil and mitomycin C with or without streptozotocin for advanced pancreatic cancer A Southwest Oncology Group study. <i>Cancer</i> . 1983 Nov 1;52(9):1577-82.	mixed population including metastatic patients
Cantore M, Fiorentini G, Luppi G, Rosati G, Caudana R, Piazza E, Comella G, Ceravolo C, Misericocchi L, Mambrini A, Del Freo A, Zamagni D, Rabbi C, Marangolo. Gemcitabine versus FLEC regimen given intra-arterially to patients with nresectable pancreatic cancer: a prospective, randomized phase III trial of the Italian Society for Integrated Locoregional Therapy in Oncology. <i>J Chemother</i> . 2004 Dec;16(6):589-94.	mixed population including metastatic patients
Chen J, Xiao-Zhong G, Qi XS. Clinical Outcomes of Specific Immunotherapy in Advanced Pancreatic Cancer: A Systematic Review and Meta-Analysis. <i>J Immunol Res</i> . 2017:8282391.	This review included 25 articles, which are mostly not respondent to the inclusion criteria (no study design, no comparative evidence, no English). Therefore references have been checked for relevant studies
Chen Y, Sun XJ, Jiang TH, Mao AW. Combined radiochemotherapy in patients with locally advanced pancreatic cancer: a meta-analysis. <i>World J Gastroenterol</i> . 2013 Nov 14;19(42):7461-71.	Systematic review not relevant to PICO: references have been checked
Colucci G, Labianca R, Di Costanzo F, Gebbia V, Carteni G, et al. Randomized phase III trial of gemcitabine plus cisplatin compared with single-agent gemcitabine as first-line treatment of patients with advanced pancreatic cancer: the GIP-1 study. <i>J Clin Oncol</i> . 2010 Apr 1;28(10):1645-51.	mixed population including metastatic patients
Conroy T, Desseigne F, Ychou M, Bouché O, Guimbaud R, et al. FOLFIRINOX versus gemcitabine for metastatic pancreatic cancer. <i>N Engl J Med</i> . 2011 May 12;364(19):1817-25.	mixed population including metastatic patients
Dababou S, Marrocchio C, Rosenberg J, Bitton R, Pauly KB, et al. A meta-analysis of palliative treatment of pancreatic cancer with high intensity focused ultrasound. <i>J Ther Ultrasound</i> . 2017;5:9.	This review included 23 articles, which are mostly not respondent to the inclusion criteria (no study design, no comparative evidence, no English). Therefore references have been checked for relevant studies

Study	Reason for exclusion
Fegrachi S, Besselink MG, van Santvoort HC, van Hillegersberg R, Molenaar IQ. Radiofrequency ablation for unresectable locally advanced pancreatic cancer: a systematic review. <i>HPB (Oxford)</i> . 2014 Feb;16(2):119-23. doi: 10.1111/hpb.12097.	review including evidence not matching the inclusion criteria: references have been checked
Girelli R, Giardino A, Frigerio I, Salvia R, Partelli S, Bassi C. Survival after radiofrequency of stage III pancreatic carcinoma: a wind of change? <i>HBP</i> . 2011;13(Suppl. 2):15	conference abstract
Gonçalves A, Gilabert M, François E, Dahan L, Perrier H, Lamy R, Re D, Largillier R, Gasmi M, Tchiknavorian X, Esterni B, Genre D, Moureau-Zabotto L, Giovannini M, Seitz JF, Delpero JR, Turrini O, Viens P, Raoul JL. BAYPAN study: a double-blind phase III randomized trial comparing gemcitabine plus sorafenib and gemcitabine plus placebo in patients with advanced pancreatic cancer. <i>Ann Oncol</i> . 2012 Nov;23(11):2799-805.	mixed population including metastatic patients
Gourgou-Bourgade S, Bascoul-Mollevi C, Desseigne F, Ychou M, Bouché O, Guimbaud R, Bécouarn Y, Adenis A, Raoul JL, Boige V, Bérille J, Conroy T. Impact of FOLFIRINOX compared with gemcitabine on quality of life in patients with metastatic pancreatic cancer: results from the PRODIGE 4/ACCORD 11 randomized trial. <i>J Clin Oncol</i> . 2013 Jan 1;31(1):23-9.	mixed population including metastatic patients
Han GH, Yin ZX, Meng XJ, He CY, Zhang HB, Sun AH, Wu KC, Ding J, Fan DM. Prospective randomized clinical trial of two drug delivery pathway in the treatment of inoperable advanced pancreatic carcinoma. <i>Chin J Dig Dis</i> . 2006;7(1):45-8.	mixed population including metastatic patients
Herrmann R, Bodoky G, Ruhstaller T, Glimelius B, Bajetta E, et al. Gemcitabine plus capecitabine compared with gemcitabine alone in advanced pancreatic cancer: a randomized, multicenter, phase III trial of the Swiss Group for Clinical Cancer Research and the Central European Cooperative Oncology Group. <i>J Clin Oncol</i> . 2007 Jun 1;25(16):2212-7.	mixed population including metastatic patients
Huang D, Fang J, Luo G. Meta-analysis of gemcitabine and cisplatin combination chemotherapy versus gemcitabine alone for pancreatic cancer. <i>J Cancer Res Ther</i> . 2016;12(Supplement):104-108.	References have been checked for relevant studies, no new evidence was identified
Ierardi AM, Lucchina N, Petrillo M, Floridi C, Piacentino F, et al. Systematic review of minimally invasive ablation treatment for locally advanced pancreatic cancer. <i>Radiol Med</i> . 2014 Jul;119(7):483-98.	Systematic review not relevant to PICO: references have been checked
Ji Z, Wang Y, Chen X, Wu T. Peripancreatic artery ligation and artery infusion chemotherapy for advanced pancreatic carcinoma. <i>Chin Med J (Engl)</i> . 2003 Jan;116(1):89-92.	mixed population including metastatic patients
Keane MG, Bramis K, Pereira SP, Fusai GK. Systematic review of novel ablative methods in locally advanced pancreatic cancer. <i>World J Gastroenterol</i> . 2014 Mar 7;20(9):2267-78. doi: 10.3748/wjg.v20.i9.2267.	review including evidence not matching the inclusion criteria: references have been checked
Kindler HL, Ioka T, Richel DJ, Bennouna J, Létourneau R, Okusaka T, Funakoshi A, Furuse J, Park YS, Ohkawa S, Springett GM, Wasan HS, Trask PC, Bycott P,	mixed population including metastatic patients
Maraveyas A, Waters J, Roy R, Fyfe D, Propper D, et al. Gemcitabine versus gemcitabine plus dalteparin thromboprophylaxis in pancreatic cancer. <i>Eur J Cancer</i> . 2012 Jun;48(9):1283-92.	mixed population including metastatic patients
Matsui Y, Nakagawa A, Kamiyama Y, Yamamoto K, Kubo N, Nakase Y. Selective thermocoagulation of unresectable pancreatic cancers by using radiofrequency capacitive heating. <i>Pancreas</i> . 2000;20:14-20.	mixed population including metastatic patients

Study	Reason for exclusion
Moore MJ, Goldstein D, Hamm J, Figer A, Hecht JR, et al. Erlotinib plus gemcitabine compared with gemcitabine alone in patients with advanced pancreatic cancer: a phase III trial of the National Cancer Institute of Canada Clinical Trials Group. <i>J Clin Oncol</i> . 2007 May 20;25(15):1960-6.	mixed population including metastatic patients
Oster MW, Gray R, Panasci L, Perry MC. Chemotherapy for advanced pancreatic cancer A comparison of 5-fluorouracil, adriamycin, and mitomycin (FAM) with 5-fluorouracil, streptozotocin, and mitomycin (FSM). <i>Cancer</i> . 1986 Jan 1;57(1):29-33.	mixed population including metastatic patients
Shamseddine AI, Khalifeh MJ, Mourad FH, Chehal AA, Al-Kutoubi A, Abbas J, Habbal MZ, Malaeb LA, Bikhazi AB. Comparative pharmacokinetics and metabolic pathway of gemcitabine during intravenous and intra-arterial delivery in unresectable pancreatic cancer patients. <i>Clin Pharmacokinet</i> . 2005;44(9):957-67.	mixed population including metastatic patients
Singh V, Varshney S, Sewkani A, Varshney R, Deshpande G, Shaji P, et al. Radiofrequency ablation of unresectable pancreatic carcinoma: 10-year experience from single centre. <i>Pancreatology</i> . 2011;11(Suppl. 1):52.	conference abstract
Spiliotis JD, Datsis AC, Michalopoulos MV, Kekelos SP, Vaxevanidou A, Rogdakis AV, et al. Radiofrequency ablation combined with palliative surgery may prolong survival of patients with advanced cancer of the pancreas. <i>Langenbecks Arch Surg</i> . 2007;392:55–60	mixed population including metastatic patients
Su D, Jiao SC, Wang LJ, Shi WW, Long YY, et al. Efficacy of nimotuzumab plus gemcitabine usage as first-line treatment in patients with advanced pancreatic cancer. <i>Tumour Biol</i> . 2014 Mar;35(3):2313-8.	mixed population including metastatic patients
Sudo K, Ishihara T, Hirata N, Ozawa F, Ohshima T, et al. Randomized controlled study of gemcitabine plus S-1 combination chemotherapy versus gemcitabine for unresectable pancreatic cancer. <i>Cancer Chemother Pharmacol</i> . 2014 Feb;73(2):389-96.	mixed population including metastatic patients
Suker M, Beumer BR, Sadot E, Marthey L, Faris JE, et al. FOLFIRINOX for locally advanced pancreatic cancer: a systematic review and patient-level meta-analysis. <i>Lancet Oncol</i> . 2016 Jun;17(6):801-10.	Systematic review not relevant to PICO: references have been checked
Sultana A, Tudur Smith C, Cunningham D, Starling N, Tait D, et al. Systematic review, including meta-analyses, on the management of locally advanced pancreatic cancer using radiation/combined modality therapy. <i>Br J Cancer</i> . 2007 Apr 23;96(8):1183-90.	Systematic review not relevant to PICO: references have been checked
Topham C, Glees J, Coombes RC. Comparison of single-agent epirubicin and 5-fluorouracil/epirubicin/mitomycin in patients with advanced adenocarcinoma of the pancreas. <i>Oncology</i> . 1993 Apr;50 Suppl 1:78-80.	mixed population including metastatic patients
Ulrich-Pur H, Raderer M, Verena Kornek G, Schüll B, Schmid K, et al. Irinotecan plus raltitrexed vs raltitrexed alone in patients with gemcitabine-pretreated advanced pancreatic adenocarcinoma. <i>Br J Cancer</i> . 2003 Apr 22;88(8):1180-4.	mixed population including metastatic patients
Van Cutsem E, Vervenne WL, Bennouna J, Humblet Y, Gill S, Van Laethem JL, Verslype C, Scheithauer W, Shang A, Cosaert J, Moore MJ: Phase III trial of bevacizumab in combination with gemcitabine and erlotinib in patients with metastatic pancreatic cancer. <i>J Clin Oncol</i> 2009, 27(13):2231–7.	mixed population including metastatic patients
Von Hoff DD, Ervin T, Arena FP, Chiorean EG, Infante J, et al. Increased survival in pancreatic cancer with nab-paclitaxel plus gemcitabine. <i>N Engl J Med</i> . 2013 Oct 31;369(18):1691-703.	mixed population including metastatic patients
Wang X, Ni Q, Jin M, Li Z, Wu Y, et al. Gemcitabine or gemcitabine plus cisplatin for in 42 patients with locally advanced or metastatic pancreatic cancer. <i>Zhonghua Zhong Liu Za Zhi</i> . 2002 Jul;24(4):404-7.	mixed population including metastatic patients

Study	Reason for exclusion
Wu Y, Tang Z, Fang H, Gao S, Chen J, Wang Y, et al. High operative risk of cool-tip radiofrequency ablation for unresectable pancreatic head cancer. <i>J Surg Oncol.</i> 2006;94:392–395.	mixed population including metastatic patients
Yamaue H, Tsunoda T, Tani M, Miyazawa M, Yamao K, Mizuno N, Okusaka T, Ueno H, Boku N, Fukutomi A, Ishii H, Ohkawa S, Furukawa M, Maguchi H, Ikeda M, Togashi Y, Nishio K, Ohashi Y. Randomized phase II/III clinical trial of elpamotide for patients with advanced pancreatic cancer: PEGASUS-PC Study. <i>Cancer Sci.</i> 2015 Jul;106(7):883-90. doi: 10.1111/cas.12674.	mixed population including metastatic patients
Yang YF, Cao XH, Bao CE, Wan X. Concurrent radiotherapy with oral fluoropyrimidine versus gemcitabine in locally advanced pancreatic cancer: a systematic review and meta-analysis. <i>Onco Targets Ther.</i> 2015 Nov 9;8:3315-22.	Systematic review not relevant to PICO: references have been checked
Yip D, Karapetis C, Strickland A, Steer CB, Goldstein D. Chemotherapy and radiotherapy for inoperable advanced pancreatic cancer. <i>Cochrane Database Syst Rev.</i> 2006 Jul 19;	Systematic review not relevant to PICO: references have been checked
Zhu CP, Shi J, Chen YX, Xie WF, Lin Y. Gemcitabine in the chemoradiotherapy for locally advanced pancreatic cancer: a meta-analysis. <i>Radiother Oncol.</i> 2011 May;99(2):108-13.	Systematic review not relevant to PICO: references have been checked

G.17₁ Management of metastatic pancreatic cancer

Study	Reason for Exclusion
Adler H, Redmond CE, Heneghan HM, Swan N, Maguire D, Traynor O, Hoti E, Geoghegan JG, Conlon KC. Pancreatectomy for metastatic disease: a systematic review. <i>Eur J Surg Oncol.</i> 2014;40(4):379-86.	No population of interest: non-metastatic PC patients
Almhanna K, Kim R. Second-line therapy for Gemcitabine - refractory pancreatic cancer: is there a standard?. <i>Oncology (Williston Park).</i> 2008;22(10):1176-83; discussion 1190, 1192, 1196.	No study design -narrative literature review
Ambe C, Fulp W, Springett G, Hoffe S, Mahipal A. A Meta-analysis of Randomized Clinical Trials of Chemoradiation Therapy in LA Pancreatic Cancer. <i>J Gastrointest Cancer.</i> 2015;46(3):284-90.	This MA includes indirect evidence and conference abstracts (references has been checked and 3 RCTs have been included in the evidence review)
Bahra M, Pratschke J, Klein F, Neuhaus P, Boas-Knoop S, Puhl G, Denecke T, Pullankavumkal JR, Sinn M, Riess H, Pelzer U. Cytoreductive Surgery for Pancreatic Cancer Improves Overall Outcome of Gemcitabine -Based Chemotherapy. <i>Pancreas.</i> 2015;44(6):930-6.	No study design: no RCT
Banu E, Banu A, Fodor A, Landi B, Rougier P, et al. Meta-analysis of randomised trials comparing Gemcitabine -based doublets versus Gemcitabine single-agent in patients with advanced and metastatic pancreatic cancer. <i>Drugs Aging.</i> 2007;24(10):865-79.	This MA includes data either from phase 3 [n=15] and phase 2 randomized trials [n=7] (either as full articles or as conference abstract [n=6]). References has been checked
Beenen E, van Roest MH, Sieders E, Peeters PM, Porte RJ, de Boer MT, de Jong KP. Staging laparoscopy in patients scheduled for pancreaticoduodenectomy minimizes hospitalization in the remaining life time when metastatic carcinoma is found. <i>Eur J Surg Oncol.</i> 2014;40(8):989-94.	No pancreatic cancer: metastatic periampullary carcinoma
Chauffert B, Mornex F, Bonnetain F, Rougier P, Mariette C, et al.	No population of interest: non-

Study	Reason for Exclusion
Phase III trial comparing intensive induction chemoradiotherapy (60 Gy, infusional 5-FU and intermittent cisplatin) followed by maintenance Gemcitabine with Gemcitabine single-agent for LA unresectable pancreatic cancer Definitive results of the 2000-01 FFCD/SFRO study. <i>Ann Oncol.</i> 2008;19(9):1592-9.	metastatic patients
Chen L, Zhang M, Luo S. Outcome of Gemcitabine + molecular targeted agent for treatment of pancreatic cancer: a meta-analysis of prospective phase III studies. <i>Tumour Biol.</i> 2014;35(11):11551-8.	This MA includes 11 RCTs and has been updated by the present evidence review. References has been checked and all 11 RCTs have been included in the evidence review
Choi M, Razzaque S, Kim R. Systemic therapy of advanced pancreatic cancer: has the landscape changed?. <i>Clin Adv Hematol Oncol.</i> 2012;10(7):442-51.	No study design -narrative literature review
Chung HW, Bang SM, Park SW, Chung JB, Kang JK, et al. A prospective randomized study of Gemcitabine with doxifluridine versus paclitaxel with doxifluridine in concurrent chemoradiotherapy for LA pancreatic cancer. <i>Int J Radiat Oncol Biol Phys.</i> 2004;60(5):1494-501.	no intervention/comparison: this RCT compares the efficacy and toxicity of Gemcitabine -based chemoradiotherapy (CCRT) with paclitaxel-based CCRT in patients with LA pancreatic cancer (as such is not relevant to the PICO question)
Ciliberto D, Botta C, Correale P, Rossi M, Caraglia M, et al. Role of Gemcitabine -based combination therapy in the management of advanced pancreatic cancer: a meta-analysis of randomised trials. <i>Eur J Cancer.</i> 2013;49(3):593-603.	This MA includes data from cancer meetings proceedings. References has been checked and 10 RCTs have been included in the evidence review
Ciliberto D, Staropoli N, Chiellino S, Botta C, Tassone P, et al. Systematic review and meta-analysis on targeted therapy in advanced pancreatic cancer. <i>Pancreatology.</i> 2016;16(2):249-58.	This MA includes data either from phase 3 [n=26] and phase 2 randomized trials [n=8] (either as full articles or as conference abstract[n=12]). References has been checked and 26 RCTs have been included in the evidence review
Cohen SJ, Dobelbower R Jr, Lipsitz S, Catalano PJ, Sischy B, et al. A randomized phase III study of radiotherapy alone or with 5-FU and mitomycin-C in patients with LA adenocarcinoma of the pancreas: Eastern Cooperative Oncology Group study E8282. <i>Int J Radiat Oncol Biol Phys.</i> 2005;62(5):1345-50.	No population of interest: non-metastatic patients
Colucci G, Giuliani F, Gebbia V, Biglietto M, Rabitti P, et al. Gemcitabine single-agent or with cisplatin for the treatment of patients with LA and/or metastatic pancreatic carcinoma: a prospective, randomized phase III study of the Gruppo Oncologia dell'Italia Meridionale. <i>Cancer.</i> 2002;94(4):902-10.	This is a RCT that reports interim results updated from Colucci (2010) which is included
Eltawil KM, Renfrew PD, Molinari M. Meta-analysis of phase III randomized trials of molecular targeted therapies for advanced pancreatic cancer. <i>HPB (Oxford).</i> 2012;14(4):260-8.	This MA includes 7 RCTs and has been updated by the present evidence review. References has been checked and all 7 RCTs have been included in the evidence review
Fegrachi S, Besselink MG, van Santvoort HC, van Hillegersberg R, Molenaar IQ. Radiofrequency ablation for unresectable LA pancreatic cancer: a systematic review. <i>HPB (Oxford).</i> 2014;16(2):119-23.	No study design: narrative analysis of the outcome from the 5 included studies (none RCT)
Giuliani F, Di Maio M, Colucci G, Perrone F. Conventional chemotherapy of advanced pancreatic cancer. <i>Curr Drug</i>	No study design -narrative literature review

Study	Reason for Exclusion
Targets. 2012;13(6):795-801.	
Glimelius B, Hoffman K, Sjöden PO, Jacobsson G, Sellström H, et al. Chemotherapy improves survival and quality of life in advanced pancreatic and biliary cancer. <i>Ann Oncol</i> . 1996;7(6):593-600.	No population of interest: non-metastatic patients
Goldstein D, El-Maraghi RH, Hammel P, et al. Nab-paclitaxel + Gemcitabine for metastatic pancreatic cancer: Long-term survival from a phase III trial. <i>J Natl Cancer Inst</i> . 2015;107(2):10.1093/jnci/dju413.	This trial refers to Nab-paclitaxel + Gemcitabine which is the subject of NICE TA, therefore it has been excluded
Gounaris I, Zaki K, Corrie P. Options for the treatment of Gemcitabine -resistant advanced pancreatic cancer. <i>JOP</i> . 2010;11(2):113-23.	No study design -narrative literature review
Hammel P, Huguet F, van Laethem JL, Goldstein D, Glimelius B, et al. Effect of Chemoradiotherapy versus Chemotherapy on Survival in Patients With LA Pancreatic Cancer Controlled After 4 Months of Gemcitabine With or Without Erlotinib: The LAP07 Randomized Clinical Trial. <i>JAMA</i> . 2016;315(17):1844-53.	No population of interest: non-metastatic patients
Han GH, Yin ZX, Meng XJ, He CY, Zhang HB, Sun AH, Wu KC, Ding J, Fan DM. Prospective randomized clinical trial of two drug delivery pathway in the treatment of inoperable advanced pancreatic carcinoma. <i>Chin J Dig Dis</i> . 2006;7(1):45-8.	No population of interest: non-metastatic patients
He X, Kong Y, Wen D, Liu C, Xiao M, et al. A prospective, randomized trial of pancreatectomy combined with isolated hepatic perfusion via a dual route or conventional postoperative adjuvant therapy in patients with advanced pancreatic head carcinoma. <i>Int J Clin Exp Med</i> . 2015;8(4):6463-71.	No intervention of interest: One study group received regional lymphadenectomy and dual-route IHP, and the other was control group with extended lymphadenectomy and systemic chemotherapy (not relevant to the PICO)
Heinemann V, Boeck S, Hinke A, Labianca R, Louvet C. Meta-analysis of randomized trials: evaluation of benefit from Gemcitabine -based combination chemotherapy applied in advanced pancreatic cancer. <i>BMC Cancer</i> . 2008;8:82.	This MA includes data either from phase 3 [n=12] and phase 2 randomized trials [n=3]. (either as full articles or as conference abstract[n=4]). References has been checked and 10 RCTs have been included in the evidence review
Heinemann V, Labianca R, Hinke A, Louvet C. Increased survival using platinum analog combined with Gemcitabine as compared to single-agent Gemcitabine in advanced pancreatic cancer: pooled analysis of two randomized trials, the GERCOR/GISCAD intergroup study and a German multicenter study. <i>Ann Oncol</i> . 2007;18(10):1652-9.	No study design: The aim was to evaluate the efficacy of Gemcitabine combined with a platinum agent compared to single-agent Gemcitabine in a pooled analysis of two randomized trials (which were included for this question)
Herman JM, Wild AT, Wang H, Tran PT, Chang KJ, et al. Randomized phase III multiinstitutional study of TNFerade biologic with 5-FU and radiotherapy for LA pancreatic cancer: final results. <i>J Clin Oncol</i> . 2013;31(7):886-94.	No intervention/comparison of interest (TNFerade biologic)
Hess V, Glimelius B, Grawe P, Dietrich D, Bodoky G, et al. CA 19-9 tumour-marker response to chemotherapy in patients with advanced pancreatic cancer enrolled in a randomised controlled trial. <i>Lancet Oncol</i> . 2008;9(2):132-8.	No study design - subset analysis of Herrmann 2007. The aim of this study was to analyse the correlation between the kinetics of CA 19-9 concentrations and survival in a large cohort of patients with advanced pancreatic

Study	Reason for Exclusion
	carcinoma.
Huguier M, Barrier A, Valinas R, Flahault A, Adloff M, Pezet D, Jaeck D, Millat B; French University Association for Surgical Research. Randomized trial of 5-FU, leucovorin and cisplatin in advanced pancreatic cancer. <i>Hepatogastroenterology</i> . 2001;48(39):875-8.	No population: no metastatic patients
Ierardi AM, Lucchina N, Petrillo M, Floridi C, Piacentino F, et al. Systematic review of minimally invasive ablation treatment for LA pancreatic cancer. <i>Radiol Med</i> . 2014;119(7):483-98.	No study design -narrative literature review
Inal A, Kos FT, Algin E, Yildiz R, Dikiltas M, Unek IT, et al. Gemcitabine single-agent versus combination of Gemcitabine and cisplatin for the treatment of patients with LA and/or metastatic pancreatic carcinoma: a retrospective analysis of multicenter study. <i>Neoplasma</i> . 2012;59(3):297 – 301.	No study design: retrospective analysis of 406 patients to evaluate the efficiency of Gem alone versus GemCis in patients with LA and/or metastatic pancreatic adenocarcinoma
Ioka T, Komatsu Y, et al. Randomised phase II trial of irinotecan plus S-1 in patients with gemcitabine-refractory pancreatic cancer. <i>Br J Cancer</i> . 2017;116(4):464-471.	No population: this RCT evaluates the efficacy and safety of gemcitabine and capecitabine compared with gemcitabine monotherapy for resected pc
Ishii H, Furuse J, Nagase M, Yoshino M. Impact of Gemcitabine on the treatment of metastatic pancreatic cancer. <i>J Gastroenterol Hepatol</i> . 2005 Jan;20(1):62-6.	No study design: no RCT
Karasawa K, Sunamura M, Okamoto A, Nemoto K, Matsuno S, et al. Efficacy of novel hypoxic cell sensitiser doranidazole in the treatment of LA pancreatic cancer: long-term results of a placebo-controlled randomised study. <i>Radiother Oncol</i> . 2008 Jun;87(3):326-30.	No population of interest: non-metastatic patients
Li D, Chen C, Zhou Y, Chen R, Fan X, et al. Gemcitabine Compared With Gemcitabine and S-1 Combination Therapy in Advanced Pancreatic Cancer: A Systematic Review and Meta-Analysis. <i>Medicine (Baltimore)</i> . 2015 Sep;94(35):e1345.	This MA includes both 4 trials and 2 retrospective study. References has been checked and 2 RCTs have been included in the evidence review
Li Q, Yan H, Liu W, Zhen H, Yang Y, et al. Efficacy and safety of Gemcitabine -5-FU combination therapy in the management of advanced pancreatic cancer: a meta-analysis of randomized controlled trials. <i>PLoS One</i> . 2014;9(8):e104346.	This MA includes data from either from phase 3 (n=4) and phase 2 (n=4) randomized trials. References has been checked and 4 RCTs have been included in the evidence review
Li Q, Yuan Z, Yan H, Wen Z, Zhang R, et al. Comparison of Gemcitabine combined with targeted agent therapy versus Gemcitabine monotherapy in the management of advanced pancreatic cancer. <i>Clin Ther</i> . 2014 Jul 1;36(7):1054-63.	This MA includes data from either from phase 3 (n=7) and phase 2 (n=3) randomized trials. References has been checked and 7 RCTs have been included in the evidence review
Linstadt D, Quivey JM, Castro JR, Andejaski Y, Phillips TL, et al. Comparison of helium-ion radiation therapy and split-course megavoltage irradiation for unresectable adenocarcinoma of the pancreas Final report of a Northern California Oncology Group randomized prospective clinical trial. <i>Radiology</i> . 1988;168(1):261-4.	No population of interest: non-metastatic PC patients. No intervention of interest (helium ion radiation therapy vs conventional split-course megavoltage photon irradiation)
Liu F, Tang Y, Sun J, Yuan Z, Li S, et al. Regional intra-arterial vs systemic chemotherapy for advanced pancreatic cancer: a	This MA includes 6 studies, of which two were in Chinese.

Study	Reason for Exclusion
systematic review and meta-analysis of randomized controlled trials. PLoS One. 2012;7(7):e40847.	Therefore references have been hand-searched and 4 trials from this review have been included (Aigner 2003; and Ji 2003)
Liu Y, Huang QK, Hong WD, Wu JM, Sun XC. The addition of S-1 to Gemcitabine -based chemotherapy improves survival with increased toxicity for patients with advanced pancreatic cancer: combined meta-analysis of efficacy and safety profile. Clin Res Hepatol Gastroenterol. 2015;39(2):254-60.	This MA includes 5 RCTs and has been updated by the present evidence review. References has been checked and all 5 RCTs have been included in the evidence review
Loehrer PJ Sr, Feng Y, Cardenes H, Wagner L, Brell JM, et al. Gemcitabine single-agent versus Gemcitabine + radiotherapy in patients with LA pancreatic cancer: an Eastern Cooperative Oncology Group trial. J Clin Oncol. 2011;29(31):4105-12.	No population of interest: non-metastatic patients
Lygidakis NJ, Sgourakis G, Georgia D, Vlachos L, Raptis S. Regional targeting chemoimmunotherapy in patients undergoing pancreatic resection in an advanced stage of their disease: a prospective randomized study. Ann Surg. 2002;236(6):806-13.	No population of interest: non-metastatic PC patients
Moertel CG, Engstrom P, Lavin PT, Gelber RD, Carbone PP. Chemotherapy of gastric and pancreatic carcinoma: a controlled evaluation of combinations of 5-FU with nitrosoureas and "lactones". Surgery. 1979 May;85(5):509-13.	No population of interest: non-metastatic PC patients
Moir J, White SA, French JJ, Littler P, Manas DM. Systematic review of irreversible electroporation in the treatment of advanced pancreatic cancer. Eur J Surg Oncol. 2014 Dec;40(12):1598-604.	No study design -narrative literature review
Neoptolemos JP, Palmer DH, Ghaneh P, Psarelli EE, Valle JW, Halloran CM, Faluyi O, O'Reilly DA, Cunningham D, Wadsley J, Darby S, Meyer T, Gillmore R, Anthoney A, Lind P, Glimelius B, Falk S, Izbicki JR, Middleton GW, Cummins S, Ross PJ, Wasan H, McDonald A, Crosby T, Ma YT, Patel K, Sherriff D, Soomal R, Borg D, Sothi S, Hammel P, Hackert T, Jackson R, Büchler MW; European Study Group for Pancreatic Cancer.. Comparison of adjuvant gemcitabine and capecitabine with gemcitabine monotherapy in patients with resected pancreatic cancer (ESPAC-4): a multicentre, open-label, randomised, phase 3 trial. Lancet. 2017 11;389(10073):1011-1024.	No population: this RCT does not report sufficient information about the study population
Okusaka T, Miyakawa H, et al. Updated results from GEST study: a randomized, three-arm phase III study for advanced pancreatic cancer. J Cancer Res Clin Oncol. 2017	Follow-up analysis of Ueno et al 2013 (study already included in the evidence review): no clear randomization
O'Reilly EM. Pancreatic adenocarcinoma: new strategies for success. Gastrointest Cancer Res. 2009;3(2 Suppl):S11-5.	No study design -narrative literature review
Ouyang G, Liu Z, Huang S, Li Q, Xiong L, et al. Gemcitabine + cisplatin versus Gemcitabine single-agent in the treatment of pancreatic cancer: a meta-analysis. World J Surg Oncol. 2016 29;14:59.	This MA includes both eight randomized controlled trials and one retrospective study. References has been checked and 4 RCTs have been included in the evidence review
Palmer KR, Kerr M, Knowles G, Cull A, Carter DC, et al. Chemotherapy prolongs survival in inoperable pancreatic carcinoma. Br J Surg. 1994;81(6):882-5.	No comparator: This trial compares the effectiveness and tolerability of chemotherapy (using a combination of 5-FU, Adriamycin and mitomycin) WITH NO CHEMOTHERAPY for advanced pancreatic

Study	Reason for Exclusion
	cancer. Therefore it has been excluded according to the PICO.
Petrelli F, Coinu A, Borgonovo K, Cabiddu M, Ghilardi M, et al. Polychemotherapy or Gemcitabine in advanced pancreatic cancer: a meta-analysis. <i>Dig Liver Dis.</i> 2014;46(5):452-9.	This MA includes data from cancer meetings proceedings - therefore it has been excluded but checked for references (19 phase III trials have been included)
Pezzilli R, Serra C, Ricci C, Casadei R, Monari F, et al. Radiofrequency ablation for advanced ductal pancreatic carcinoma: is this approach beneficial for our patients? A systematic review. <i>Pancreas.</i> 2011;40(1):163-5.	No study design -narrative literature review
Poplin E, Feng Y, Berlin J, Rothenberg ML, Hochster H, Mitchell E, Alberts S, O'Dwyer P, Haller D, Catalano P, Cella D, Benson AB 3rd. Phase III, randomized study of Gemcitabine and oxaliplatin versus Gemcitabine (fixed-dose rate infusion) compared with Gemcitabine (30-minute infusion) in patients with pancreatic carcinoma E6201: a trial of the Eastern Cooperative Oncology Group. <i>J Clin Oncol.</i> 2009 27(23):3778-85. doi: 10.1200/JCO.2008.20.9007. Epub 2009. Erratum in: <i>J Clin Oncol.</i> 2009 Dec 1;27(34):5859.	This is a full publication from the Poplin (2006) trial published as abstract (which is included in Gresham 2014)
Ramanathan RK, Goldstein D, Korn RL, Arena F, Moore M, Siena S, Teixeira L, Taberner J, Van Laethem JL, Liu H, McGovern D, Lu B, Von Hoff DD. Positron emission tomography response evaluation from a randomized phase III trial of weekly nab-paclitaxel + Gemcitabine versus Gemcitabine single-agent for patients with metastatic adenocarcinoma of the pancreas. <i>Ann Oncol.</i> 2016;27(4):648-53.	No intervention of interest: this trial examines the feasibility of positron emission tomography (PET).
Romanus D, Kindler HL, Archer L, Basch E, Niedzwiecki D, et al. Does health-related quality of life improve for advanced pancreatic cancer patients who respond to Gemcitabine ? Analysis of a randomized phase III trial of the cancer and leukemia group B (CALGB 80303). <i>J Pain Symptom Manage.</i> 2012;43(2):205-17.	No study design: this was a consecutive subsample of patients (Kindler HL,.... <i>J Clin Oncol.</i> 2007;25(18S):4508). It is unclear whether the randomization has been kept., therefore this analysis was excluded
Rombouts SJ, Vogel JA, van Santvoort HC, van Lienden KP, van Hillegersberg R, et al. Systematic review of innovative ablative therapies for the treatment of LA pancreatic cancer. <i>Br J Surg.</i> 2015;102(3):182-93. PubMed PMID: 25524417	This MA defines LAPC as non-metastasize but unresectable disease. Accordingly, studies involving patient with metastatic disease have not been included in the data analysis. Therefore it has been excluded but checked for references (none study has been included)
Saif MW. Advanced stage pancreatic cancer: novel therapeutic options. <i>Expert Rev Clin Pharmacol.</i> 2014;7(4):487-98.	No study design -narrative literature review
Scheithauer W, Schull B, Ulrich-Pur H, et al. Biweekly high-dose Gemcitabine single-agent or in combination with capecitabine in patients with metastatic pancreatic adenocarcinoma: A randomized phase II trial. <i>Ann Oncol</i> 14:97-104, 2003	No study design (This study is phase 2 trial)
Senderowicz AM, Johnson JR, Sridhara R, Zimmerman P, Justice R, et al. Erlotinib/Gemcitabine for first-line treatment of LA or metastatic adenocarcinoma of the pancreas. <i>Oncology (Williston Park).</i> 2007;21(14):1696-706; discussion 1706-9, 1712, 1715.	This is a review article talking about the Moore (2007) trial (which has been included)
Shamseddine AI, Khalifeh MJ, Mourad FH, Chehal AA, Al-	No study design (this is a non-

Study	Reason for Exclusion
Kutoubi A, Abbas J, Habbal MZ, Malaeb LA, Bikhazi AB. Comparative pharmacokinetics and metabolic pathway of Gemcitabine during intravenous and intra-arterial delivery in unresectable pancreatic cancer patients. Clin Pharmacokinet. 2005;44(9):957-67.	randomized controlled study)
Starling N, Neoptolemos J, Cunningham D. Role of erlotinib in the management of pancreatic cancer. Ther Clin Risk Manag. 2006;2(4):435-45.	No study design -narrative literature review
Su D, Jiao SC, Wang LJ, Shi WW, Long YY, et al. Efficacy of nimotuzumab + Gemcitabine usage as first-line treatment in patients with advanced pancreatic cancer. Tumour Biol. 2014;35(3):2313-8.	No study design (this is a non-randomized single-arm study)
Sultana A, Ghaneh P, Cunningham D, Starling N, Neoptolemos JP, et al. Gemcitabine based combination chemotherapy in advanced pancreatic cancer-indirect comparison. BMC Cancer. 2008;8:192.	This NMA includes 11 RCTs comparing different chemotherapy regimens in patients with metastatic pancreatic cancer (the timeframe of the search is unclear). The problem is that this review includes data from either full articles or conference abstract [n=3]. Furthermore there are not enough information to judge analytical parameters of the NMA (i.e, precision, consistency, number of included/excluded studies in the network). References have been checked for phase 3 trials
Sultana A, Smith CT, Cunningham D, Starling N, Neoptolemos JP, et al. Meta-analyses of chemotherapy for LA and metastatic pancreatic cancer. J Clin Oncol. 2007;25(18):2607-15.	This MA includes data either from phase 3 [n=44] and phase 2 randomized trials [n=7]. (either as full articles or as conference abstract[n=9]). References has been checked and 35 RCTs have been included in the evidence review
Sultana A, Tudur Smith C, Cunningham D, Starling N, Neoptolemos JP, et al. Meta-analyses of chemotherapy for LA and metastatic pancreatic cancer: results of secondary end points analyses. Br J Cancer. 2008;99(1):6-13.	This MA includes data either from phase 3 [n=44] and phase 2 randomized trials [n=7]. (either as full articles or as conference abstract[n=9]). References has been checked and 35 RCTs have been included in the evidence review
Sunamura M, Karasawa K, Okamoto A, Ogata Y, Nemoto K, et al. Phase III trial of radiosensitizer PR-350 combined with intraoperative radiotherapy for the treatment of LA pancreatic cancer. Pancreas. 2004;28(3):330-4.	No population of interest: non-metastatic PC patients
Taberero J, Chiorean EG, Infante JR, Hingorani SR, Ganju V, et al. Prognostic factors of survival in a randomized phase III trial (MPACT) of weekly nab-paclitaxel + Gemcitabine versus Gemcitabine single-agent in patients with metastatic pancreatic cancer. Oncologist. 2015;20(2):143-50.	No study design: no RCT
Takada T, Nimura Y, Katoh H, Nagakawa T, Nakayama T, Matsushiro T, Amano H, Wada K. Prospective randomized trial of 5-FU, doxorubicin, and mitomycin C for non-resectable pancreatic and biliary carcinoma: multicenter randomized trial.	No intervention/comparison of interest: this trial compares chemotherapy (5-FU, doxorubicin and mitomycin)

Study	Reason for Exclusion
Hepatogastroenterology. 1998 Nov-;45(24):2020-6.	with palliative surgery in patients with locally advanced/metastatic adenocarcinoma of the pancreas. This comparison was deemed as not relevant and therefore this study was excluded
Tian W, Ding W, Kim S, Xu X, Pan M, et al. Efficacy and safety profile of combining agents against epidermal growth factor receptor or vascular endothelium growth factor receptor with Gemcitabine -based chemotherapy in patients with advanced pancreatic cancer: a meta-analysis. Pancreatology. 2013;13(4):415-22.	This MA includes data either from phase 3 [n=4] and phase 2 randomized trials [n=2]. References has been checked and 4 RCTs have been included in the evidence review
Topham C, Glees J, Coombes RC. Comparison of single-agent epirubicin and 5-FU/epirubicin/mitomycin in patients with advanced adenocarcinoma of the pancreas. Oncology. 1993;50 Suppl 1:78-80.	No population of interest: non-metastatic PC patients
Wang JP, Wu CY, Yeh YC, Shyr YM, Wu YY, et al. Erlotinib is effective in pancreatic cancer with epidermal growth factor receptor mutations: a randomized, open-label, prospective trial. Oncotarget. 2015;6(20):18162-73.	No study design (This study is phase 2 trial)
Wang X, Ni Q, Jin M, Li Z, Wu Y, et al. Gemcitabine or Gemcitabine + cisplatin for in 42 patients with LA or metastatic pancreatic cancer. Zhonghua Zhong Liu Za Zhi. 2002;24(4):404-7.	No English: Chinese.
Wang-Gillam A, Li CP, Bodoky G, Dean A, Shan YS, Jameson G, Macarulla T, Lee KH, Cunningham D, Blanc JF, Hubner RA, Chiu CF, Schwartzmann G, Siveke JT, Braithe F, Moyo V, Belanger B, Dhindsa N, Bayever E, Von Hoff DD, Chen LT; NAPOLI-1 Study Group. Nanoliposomal irinotecan with 5-FU and folinic acid in metastatic pancreatic cancer after previous Gemcitabine -based therapy (NAPOLI-1): a global, randomised, open-label, phase 3 trial. Lancet. 2016;387(10018):545-57.	This trial refers to nallri (Nanoliposomal irinotecan) which is the subject of NICE TA, therefore it has been excluded
Xie DR, Liang HL, Wang Y, Guo SS, Yang Q. Meta-analysis on inoperable pancreatic cancer: a comparison between Gemcitabine -based combination therapy and Gemcitabine single-agent . World J Gastroenterol. 2016;12(43):6973-81.	This MA includes data either from phase 3 [n=15] and phase 2 randomized trials [n=7]. References has been checked
Xie J, Yuan J, Lu L. Gemcitabine fixed-dose rate infusion for the treatment of pancreatic carcinoma: a meta-analysis of randomized controlled trials. Diagn Pathol. 2014;9:214.	This MA includes data from either from phase 3 (n=1) and phase 2 (n=2) randomized trials - therefore it has been excluded but checked for references (1 phase III trial has been included)
Yamaue H, Shimizu A, et al. Multicenter, randomized, open-label Phase II study comparing S-1 alternate-day oral therapy with the standard daily regimen as a first-line treatment in patients with unresectable advanced pancreatic cancer. Cancer Chemother Pharmacol. 2017;79(4):813-823.	No intervention of interest - different therapy frequencies (alternate-day oral therapy versus standard daily regimen) of the same ct regimen (s-1)

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