Supplementary Online Content


eMethods. Literature Search Strategies for Primary Literature
eTable 1. Inclusion and Exclusion Criteria
eTable 2. Quality Assessment Criteria
eReferences

This supplementary material has been provided by the authors to give readers additional information about their work.
Screening for Pancreatic Cancer
Databases searched:
Ovid MEDLINE
PubMed, Publisher Supplied
Cochrane Central Register of Controlled Trials (CENTRAL)

Key:
/ = subject heading
$ = truncation
* = truncation
ab = word in abstract
adj# = adjacent within x number of words
fs = floating subheading
kw = keyword
pt = publication type
ti = word in title

OVID MEDLINE
Pancreatic Adenocarcinoma Screening Trials (KQ1)
1 Pancreatic Neoplasms/
2 Carcinoma, Pancreatic Ductal/
3 Pancreatic Cyst/
4 Pancreatic Pseudocyst/
5 exp Pancreas/
6 Carcinoma in Situ/
7 exp Adenocarcinoma/
8 6 or 7
9 5 and 8
10 pancreatic intraepithelial neoplas*.ti,ab.
11 panin.ti,ab.
12 intraductal papillary mucinous neoplas*.ti,ab.
13 ipmn.ti,ab.
14 mucinous cystic neoplas*.ti,ab.
15 ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti.
16 ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti,ab.
17 limit 16 to ("in data review" or in process or "pubmed not medline")
18 1 or 2 or 3 or 4 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 17
19 Mass Screening/
20 "Early Detection of Cancer"/
exp Ultrasonography/
Endoscopic Ultrasound-Guided Fine Needle Aspiration/
exp Magnetic Resonance Imaging/
Cholangiography/
Cholangiopancreatoxy, Endoscopic Retrograde/
Positron-Emission Tomography/
ex Tomography, Emission-Computed/
Tomography, X-Ray Computed/
Angiography/
Computed Tomography Angiography/
Four-Dimensional Computed Tomography/
Positron Emission Tomography Computed Tomography/
Single Photon Emission Computed Tomography Computed Tomography/
Tomography, Spiral Computed/
Multidetector Computed Tomography/
screen*.ti,ab.
ultrasonogra*.ti,ab.
ultrasound*.ti,ab.
magnetic resonance imag*.ti,ab.
(cholangiography or cholangiopancreato*).ti,ab.
positron emission tomograph*.ti,ab.
computed tomograph*.ti,ab.
(ct scan* or pet scan* or mri or octreoscan* or octreotide scan*).ti,ab.
gangiograph*.ti,ab.
ercp.ti,ab.
or/19-45
18 and 46
*Pancreatic Neoplasms/di [Diagnosis]
*Carcinoma, Pancreatic Ductal/di [Diagnosis]
*Pancreatic Cyst/di [Diagnosis]
*Pancreatic Pseudocyst/di [Diagnosis]
48 or 49 or 50 or 51
47 or 52
clinical trials as topic/ or controlled clinical trials as topic/ or randomized controlled trials as topic/ or meta-analysis as topic/ or pragmatic clinical trials as topic/
(clinical trial or controlled clinical trial or meta analysis or randomized controlled trial or pragmatic clinical trial).pt.
Random*.ti,ab.
control groups/ or double-blind method/ or single-blind method/
clinical trial*.ti,ab.
controlled trial*.ti,ab.
(meta analy* or metaanaly*).ti,ab.
54 or 55 or 56 or 57 or 58 or 59 or 60
53 and 61
limit 62 to yr="2002 -Current"
limit 63 to english language
animals/ not (humans/ and animals/)
64 not 65
remove duplicates from 66

**Pancreatic Adenocarcinoma Screening Dx Accuracy (KQ2)**
1 Pancreatic Neoplasms/
2 Carcinoma, Pancreatic Ductal/
3 Pancreatic Cyst/
4 Pancreatic Pseudocyst/
5 exp Pancreas/
6 Carcinoma in Situ/
7 exp Adenocarcinoma/
8 6 or 7
9 5 and 8
10 pancreatic intraepithelial neoplas*.ti,ab.
11 panin.ti,ab.
12 intraductal papillary mucinous neoplas*.ti,ab.
13 ipmn.ti,ab.
14 mucinous cystic neoplas*.ti,ab.
15 ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti.
16 ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti,ab.
17 limit 16 to ("in data review" or in process or "pubmed not medline")
18 1 or 2 or 3 or 4 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 17
19 Mass Screening/
20 "Early Detection of Cancer"/
21 exp Ultrasonography/
22 Endoscopic Ultrasound-Guided Fine Needle Aspiration/
23 exp Magnetic Resonance Imaging/
24 Cholangiography/
25 Cholangiopancreatography, Endoscopic Retrograde/
26 Positron-Emission Tomography/
27 exp Tomography, Emission-Computed/
28 Tomography, X-Ray Computed/
29 Angiography/
30 Computed Tomography Angiography/
31 Four-Dimensional Computed Tomography/
32 Positron Emission Tomography Computed Tomography/
33 Single Photon Emission Computed Tomography Computed Tomography/
34 Tomography, Spiral Computed/
35 Multidetector Computed Tomography/
36 screen*.ti,ab.
37 ultrasonogra*.ti,ab.
38 ultrasound*.ti,ab.
magnetic resonance imag*.ti,ab.
(cholangiography or cholangiopancreate*).ti,ab.
positron emission tomograph*.ti,ab.
computed tomograph*.ti,ab.
(ct scan* or pet scan* or mri or octreoscan* or octreotide scan*).ti,ab.
angiograph*.ti,ab.
ercp.ti,ab.
or/19-45
18 and 46
*Pancreatic Neoplasms/di [Diagnosis]
*Carcinoma, Pancreatic Ductal/di [Diagnosis]
*Pancreatic Cyst/di [Diagnosis]
*Pancreatic Pseudocyst/di [Diagnosis]
48 or 49 or 50 or 51
47 or 52
"Sensitivity and Specificity"/
"Predictive Value of Tests"
ROC Curve/
Receiver operat*.ti,ab.
ROC curve*.ti,ab.
sensitivit*.ti,ab.
specificit*.ti,ab.
predictive value.ti,ab.
accuracy.ti,ab.
false positive*.ti,ab.
false negative*.ti,ab.
miss rate*.ti,ab.
error rate*.ti,ab.
False Negative Reactions/
False Positive Reactions/
Diagnostic Errors/
"Reproducibility of Results"
Reference Values/
Reference Standards/
Observer Variation/
or/54-73
53 and 74
limit 75 to yr="2002 -Current"
limit 76 to english language
animals/ not (humans/ and animals/)
78 not 78
remove duplicates from 79

Pancreatic Adenocarcinoma Screening Harms (KQ3)
1 Pancreatic Neoplasms/
2 Carcinoma, Pancreatic Ductal/
3 Pancreatic Cyst/
4 Pancreatic Pseudocyst/
5 exp Pancreas/
6 Carcinoma in Situ/
7 exp Adenocarcinoma/
8 6 or 7
9 5 and 8
10 pancreatic intraepithelial neoplas*.ti,ab.
11 panin.ti,ab.
12 intraductal papillary mucinous neoplas*.ti,ab.
13 ipmn.ti,ab.
14 mucinous cystic neoplas*.ti,ab.
15 ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti.
16 ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti,ab.
17 limit 16 to ("in data review" or in process or "pubmed not medline")
18 1 or 2 or 3 or 4 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 17
19 Mass Screening/
20 "Early Detection of Cancer"
21 exp Ultrasonography/
22 Endoscopic Ultrasound-Guided Fine Needle Aspiration/
23 exp Magnetic Resonance Imaging/
24 Cholangiography/
25 Cholangiopancreatography, Endoscopic Retrograde/
26 Positron-Emission Tomography/
27 exp Tomography, Emission-Computed/
28 Tomography, X-Ray Computed/
29 Angiography/
30 Computed Tomography Angiography/
31 Four-Dimensional Computed Tomography/
32 Positron Emission Tomography Computed Tomography/
33 Single Photon Emission Computed Tomography Computed Tomography/
34 Tomography, Spiral Computed/
35 Multidetector Computed Tomography/
36 screen*.ti,ab.
37 ultrasonogra*.ti,ab.
38 ultrasound*.ti,ab.
39 magnetic resonance imag*.ti,ab.
40 (cholangiography or cholangiopancreat*).ti,ab.
41 positron emission tomograph*.ti,ab.
42 computed tomograph*.ti,ab.
43 (ct scan* or pet scan* or mri or octreoscan* or octreotide scan*).ti,ab.
44 angiograph*.ti,ab.
ercover. or/19-45
18 and 46
*Pancreatic Neoplasms/di [Diagnosis]
*Carcinoma, Pancreatic Ductal/di [Diagnosis]
*Pancreatic Cyst/di [Diagnosis]
*Pancreatic Pseudocyst/di [Diagnosis]
48 or 49 or 50 or 51
47 or 52
(harm or harms or harmful or harmed).ti,ab.
(adverse effects or mortality).fs.
Mortality/
Morbidity/
death/
(death or deaths).ti,ab.
(adverse adj (effect* or event* or outcome* or reaction*)).ti,ab.
complication*.ti,ab.
side effect*.ti,ab.
safety.ti,ab.
perforat*.ti,ab.
exp Infection/
Iatrogenic Disease/
Cross Infection/
iatrogen*.ti,ab.
Hemorrhage/
Postoperative Hemorrhage/
(hemorrhag* or haemorrhag*).ti,ab.
Peritonitis/
Bile/
72 and 73
Neoplasm Seeding/
((neoplas* or malignan*) adj2 seed*).ti,ab.
Anxiety/
(anxiet* or anxious*).ti,ab.
Depression/
(cancer adj2 worr*).ti,ab.
54 or 55 or 56 or 57 or 58 or 59 or 60 or 61 or 62 or 63 or 64 or 65 or 66 or 67 or 68 or 69
or 70 or 71 or 74 or 75 or 76 or 77 or 78 or 79 or 79 or 80
clinical trials as topic/ or controlled clinical trials as topic/ or randomized controlled trials
as topic/ or meta-analysis as topic/ or pragmatic clinical trials as topic/
(clinical trial or controlled clinical trial or meta analysis or randomized controlled trial or
Random*.ti,ab.
control groups/ or double-blind method/ or single-blind method/
clinical trial*.ti,ab.
controlled trial*.ti,ab.
Pancreatic Adenocarcinoma Treatment Trials and Cohort Studies (KQ4)

1  Pancreatic Neoplasms/
2  Carcinoma, Pancreatic Ductal/
3  Pancreatic Cyst/
4  Pancreatic Pseudocyst/
5  exp Pancreas/
6  Carcinoma in Situ/
7  exp Adenocarcinoma/
8  6 or 7
9  5 and 8
10  pancreatic intraepithelial neoplas*.ti,ab.
11  panin.ti,ab.
12  intraductal papillary mucinous neoplas*.ti,ab.
13  ipmn.ti,ab.
14  mucinous cystic neoplas*.ti,ab.
15  ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti.
16  ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti,ab.
17  limit 16 to ("in data review" or in process or "pubmed not medline")
18  1 or 2 or 3 or 4 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 17
19  Treatment Outcome/
20  Treatment Failure/
21  Pancreatectomy/
22  Pancreaticoduodenectomy/
23  pancreatectom*.ti,ab.
24  Pancreaticoduodenectomy*.ti,ab.
(surger* or surgical).ti.
(surger* or surgical).ti,ab.
limit 26 to ("in data review" or in process or "pubmed not medline")
resect*.ti,ab.
exp Radiotherapy/
(radiotherap* or radiation therap* or radio therap*).ti.
(radiotherap* or radiation therap* or radio therap*).ti,ab.
limit 31 to ("in data review" or in process or "pubmed not medline")
whipple.ti,ab.
Chemoradiotherapy/
Chemoradiotherapy, Adjuvant/
Antineoplastic Combined Chemotherapy Protocols/
Chemotherapy, Adjuvant/
Consolidation Chemotherapy/
Chemotherapy, Cancer, Regional Perfusion/
Induction Chemotherapy/
Maintenance Chemotherapy/
Photochemotherapy/
chemotherap*.ti.
chemotherap*.ti,ab.
limit 44 to ("in data review" or in process or "pubmed not medline")
folfirinox.ti,ab.
Leucovorin/
Fluorouracil/
Capecitabine/
gemcitabine.ti,ab.
gemzar.ti,ab.
5-fu.ti,ab
Paclitaxel/
Albumin-Bound Paclitaxel/
Camptothecein/
Antineoplastic Agents/
19 or 20 or 21 or 22 or 23 or 24 or 25 or 27 or 28 or 29 or 30 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56
18 and 57
*Pancreatic Neoplasms/dh, dt, rt, su, th [Diet Therapy, Drug Therapy, Radiotherapy, Surgery, Therapy]
*Carcinoma, Pancreatic Ductal/dh, dt, rt, su, th [Diet Therapy, Drug Therapy, Radiotherapy, Surgery, Therapy]
*Pancreatic Cyst/dt, rt, su, th [Drug Therapy, Radiotherapy, Surgery, Therapy]
*Pancreatic Pseudocyst/dh, dt, rt, su, th [Diet Therapy, Drug Therapy, Radiotherapy, Surgery, Therapy]
59 or 60 or 61 or 62
58 or 63
clinical trials as topic/ or controlled clinical trials as topic/ or randomized controlled trials
as topic/ or meta-analysis as topic/ or pragmatic clinical trials as topic/
66 (clinical trial or controlled clinical trial or meta analysis or randomized controlled trial or pragmatic clinical trial).pt.
67 Random*.ti,ab.
68 control groups/ or double-blind method/ or single-blind method/
69 clinical trial*.ti,ab.
70 controlled trial*.ti,ab.
71 (meta analy* or metaanaly*).ti,ab.
72 cohort studies/ or longitudinal studies/ or follow-up studies/ or prospective studies/ or retrospective studies/
73 cohort.ti,ab.
74 longitudinal.ti,ab.
75 retrospectiv*.ti,ab.
76 prospectiv*.ti,ab.
77 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76
78 64 and 77
79 limit 78 to yr="2002 -Current"
80 limit 79 to english language
81 animals/ not (humans/ and animals/)
82 80 not 81

Pancreatic Adenocarcinoma Treatment Harms (KQ5)
1 Pancreatic Neoplasms/
2 Carcinoma, Pancreatic Ductal/
3 Pancreatic Cyst/
4 Pancreatic Pseudocyst/
5 exp Pancreas/
6 Carcinoma in Situ/
7 exp Adenocarcinoma/
8 6 or 7
9 5 and 8
10 pancreatic intraepithelial neoplas*.ti,ab.
11 panin.ti,ab.
12 intraductal papillary mucinous neoplas*.ti,ab.
13 ipmn.ti,ab.
14 mucinous cystic neoplas*.ti,ab.
15 ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti.
16 ((pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*) adj3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts)).ti,ab.
17 limit 16 to ("in data review" or in process or "pubmed not medline")
18 1 or 2 or 3 or 4 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 17
19 Treatment Outcome/
20 Treatment Failure/
Pancreatectomy/
Pancreaticoduodenectomy/
pancreatectom*.ti,ab.
Pancreaticoduodenectomy*.ti,ab.
(surger* or surgical).ti.
(surger* or surgical).ti,ab.
limit 26 to ("in data review" or in process or "pubmed not medline")
resect*.ti,ab.
exp Radiotherapy/
(radiotherap* or radiation therap* or radio therap*).ti.
(radiotherap* or radiation therap* or radio therap*).ti,ab.
limit 31 to ("in data review" or in process or "pubmed not medline")
whipple.ti,ab.
Chemoradiotherapy/
Chemoradiotherapy, Adjuvant/
Antineoplastic Combined Chemotherapy Protocols/
Chemotherapy, Adjuvant/
Consolidation Chemotherapy/
Chemotherapy, Cancer, Regional Perfusion/
Induction Chemotherapy/
Maintenance Chemotherapy/
Photochemotherapy/
chemotherap*.ti.
chemotherap*.ti,ab.
limit 44 to ("in data review" or in process or "pubmed not medline")
folfirinox.ti,ab.
Leucovorin/
Fluorouracil/
Capecitabine/
gemcitabine.ti,ab.
gemzar.ti,ab.
5-fu.ti,ab.
Paclitaxel/
Albumin-Bound Paclitaxel/
Camptothecin/
Antineoplastic Agents/
19 or 20 or 21 or 22 or 23 or 24 or 25 or 27 or 28 or 29 or 30 or 32 or 33 or 34 or 35 or 36 or 37 or 38 or 39 or 40 or 41 or 42 or 43 or 45 or 46 or 47 or 48 or 49 or 50 or 51 or 52 or 53 or 54 or 55 or 56
18 and 57
*Pancreatic Neoplasms/dh, dt, rt, su, th [Diet Therapy, Drug Therapy, Radiotherapy, Surgery, Therapy]
*Carcinoma, Pancreatic Ductal/dh, dt, rt, su, th [Diet Therapy, Drug Therapy, Radiotherapy, Surgery, Therapy]
*Pancreatic Cyst/dt, rt, su, th [Drug Therapy, Radiotherapy, Surgery, Therapy]
*Pancreatic Pseudocyst/dh, dt, rt, su, th [Diet Therapy, Drug Therapy, Radiotherapy, Surgery, Therapy]
Surgery, Therapy]
63  59 or 60 or 61 or 62
64  58 or 63
65  (harm or harms or harmful or harmed).ti,ab.
66  (adverse effects or mortality).fs.
67  Mortality/
68  Morbidity/
69  death/
70  (death or deaths).ti,ab.
71  (adverse adj (effect* or event* or outcome* or reaction*)).ti,ab.
72  complication*.ti,ab.
73  side effect*.ti,ab.
74  safety.ti,ab.
75  "Drug-Related Side Effects and Adverse Reactions"/
76  Long Term Adverse Effects/
77  Radiation Exposure/
78  Radiation Injuries/
79  Abnormalities, Radiation-Induced/
80  Cardiotoxicity/
81  Leukemia, Radiation-Induced/
82  Neoplasms, Radiation-Induced/
83  Osteoradionecrosis/
84  Radiation Pneumonitis/
85  Radiodermatitis/
86  (radiation adj2 (expos* or damag* or induce* or injur*)).ti,ab.
87  osteoradionecrosis.ti,ab.
88  radiodermatitis.ti,ab.
89  cardiotoxic*.ti,ab.
90  Nausea/
91  (nausea or nauseous*).ti,ab.
92  Vomiting/
93  vomit*.ti,ab.
94  Diarrhea/
95  diarrhea.ti,ab.
96  diarrhoea.ti,ab.
97  Alopecia/
98  alopeci*.ti,ab.
99  (hair* adj3 loss*).ti,ab.
100  (appetite adj3 loss*).ti,ab.
101  Fatigue/
102  (fatigu* or letharg*).ti,ab.
103  Fever/
104  fever*.ti,ab.
105  (mouth adj2 (sore or sores)).ti,ab.
106  Pain/
107  pain*.ti.
108 Constipation/
109 constipat*.ti,ab.
110 Contusions/
111 bruis*.ti,ab.
112 ((lung* or pulmonary or heart or cardiac or cardio* or kidney* or renal or nephro* or nerve* or neural*) adj2 (damag* or injur*)).ti,ab.
113 exp Postoperative Complications/
114 65 or 66 or 67 or 68 or 69 or 70 or 71 or 72 or 73 or 74 or 75 or 76 or 77 or 78 or 79 or 80 or 81 or 82 or 83 or 84 or 85 or 86 or 87 or 88 or 89 or 90 or 91 or 92 or 93 or 94 or 95 or 96 or 97 or 98 or 99 or 100 or 101 or 102 or 103 or 104 or 105 or 106 or 107 or 108 or 109 or 110 or 111 or 112 or 113
115 clinical trials as topic/ or controlled clinical trials as topic/ or randomized controlled trials as topic/ or meta-analysis as topic/ or pragmatic clinical trials as topic/
116 (clinical trial or controlled clinical trial or meta analysis or randomized controlled trial or pragmatic clinical trial).pt.
117 Random*.ti,ab.
118 control groups/ or double-blind method/ or single-blind method/
119 clinical trial*.ti,ab.
120 controlled trial*.ti,ab.
121 (meta analy* or metaanaly*).ti,ab.
122 cohort studies/ or longitudinal studies/ or follow-up studies/ or prospective studies/ or retrospective studies/
123 cohort.ti,ab.
124 longitudinal.ti,ab.
125 retrospectiv*.ti,ab.
126 prospectiv*.ti,ab.
127 case-control studies/
128 case control*.ti,ab.
129 115 or 116 or 117 or 118 or 119 or 120 or 121 or 122 or 123 or 124 or 125 or 126 or 127 or 128
130 64 and 114 and 129
131 limit 130 to yr="2002 -Current"
132 limit 131 to english language
133 animals/ not (humans/ and animals/)  
134 132 not 133
135 remove duplicates from 134

CENTRAL
Issue 9 of 12, September 2017

#1 (pancrea* or Acinar* or Acinus or hepatopancreat* or ampull*):ti,ab,kw near/3 (cancer* or carcinoma* or adenocarcinoma* or apudoma* or adenoma* or carcinoid* or sarcoma* or malignan* or tumor* or tumour* or neoplas* or lesion* or cyst or cysts):ti,ab,kw
#2 panin:ti,ab,kw
#3 ("intraductal papillary mucinous" next neoplas*):ti,ab,kw
#4 ipmn:ti,ab,kw
#5 (mucinous cystic next neoplas*):ti,ab,kw
#6 {or #1-#5}
#7 screen*:ti,ab,kw
#8 ultrasonogra*:ti,ab,kw
#9 ultrasound*:ti,ab,kw
#10 ("magnetic resonance" next imag*):ti,ab,kw
#11 mri:ti,ab,kw
#12 (cholangiography or cholangiopancreato*):ti,ab,kw
#13 tomograph*:ti,ab,kw
#14 (ct or pet or octreotide):ti,ab,kw near/2 scan:ti,ab,kw
#15 octreoscan:ti,ab,kw
#16 angiograph*:ti,ab,kw
#17 ercp:ti,ab,kw
#18 {or #7-#17}
#19 pancreatectom*:ti,ab,kw
#20 Pancreaticoduodenectom*:ti,ab,kw
#21 (surger* or surgical):ti,ab,kw
#22 resect*:ti,ab,kw
#23 radiotherapy:ti,ab,kw
#24 (radiation next therap*):ti,ab,kw
#25 (therap* next radiation):ti,ab,kw
#26 whipple:ti,ab,kw
#27 chemoradiotherap*:ti,ab,kw
#28 chemotherap*:ti,ab,kw
#29 photochemotherap*:ti,ab,kw
#30 folfirinox:ti,ab,kw
#31 Leucovorin:ti,ab,kw
#32 Fluorouracil:ti,ab,kw
#33 Capecitabine:ti,ab,kw
#34 gemcitabine:ti,ab,kw
#35 gemzar:ti,ab,kw
#36 5-fu:ti,ab,kw
#37 Paclitaxel:ti,ab,kw
#38 Camptothecin:ti,ab,kw
#39 {or #19-#38}
#40 #18 or #39
#41 #6 and #40 Publication Year from 2002 to 2017

**PubMed, Publisher Supplied Segment**

<table>
<thead>
<tr>
<th>Search</th>
<th>Query</th>
</tr>
</thead>
<tbody>
<tr>
<td>#33</td>
<td>Search #32 AND publisher[sb] AND English[language] AND (&quot;2002&quot;[Date - Publication] : &quot;3000&quot;[Date - Publication])</td>
</tr>
<tr>
<td>Search</td>
<td>Query</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>#32</td>
<td>Search #9 OR #11 OR #20 OR #26 OR #31</td>
</tr>
<tr>
<td>#31</td>
<td>Search #3 AND #23 AND #30</td>
</tr>
<tr>
<td>#30</td>
<td>Search #27 OR #28 OR #29</td>
</tr>
<tr>
<td>#27</td>
<td>Search (radiation*[tiab] AND (expos*[tiab] OR damag*[tiab] OR induce*[tiab] OR injur*[tiab])))</td>
</tr>
<tr>
<td>#26</td>
<td>Search #3 AND #23 AND #25</td>
</tr>
<tr>
<td>#25</td>
<td>Search #8 OR #24</td>
</tr>
<tr>
<td>#23</td>
<td>Search #21 OR #22</td>
</tr>
<tr>
<td>#22</td>
<td>Search radiation*[tiab] AND therap*[tiab]</td>
</tr>
<tr>
<td>#20</td>
<td>Search #3 AND #4 AND #19</td>
</tr>
<tr>
<td>#19</td>
<td>Search #12 OR #13 OR #14 OR #15 OR #16 OR #17 OR #18</td>
</tr>
<tr>
<td>#18</td>
<td>Search anxiet*[tiab] OR anxious*[tiab] OR depress*[tiab] OR &quot;cancer worry&quot;<em>[tiab] OR &quot;cancer worries&quot;</em>[tiab]</td>
</tr>
<tr>
<td>#17</td>
<td>Search malignan*[tiab] AND seed*[tiab]</td>
</tr>
<tr>
<td>#16</td>
<td>Search neoplas*[tiab] AND seed*[tiab]</td>
</tr>
<tr>
<td>#15</td>
<td>Search bile*[tiab] AND peritonitis*[tiab]</td>
</tr>
<tr>
<td>#14</td>
<td>Search perforat*[tiab] OR infect*[tiab] OR iatrogen*[tiab] OR hemorrhag*[tiab] OR haemorrhag*[tiab]</td>
</tr>
<tr>
<td>#13</td>
<td>Search (adverse*[tiab] AND (effect*[tiab] OR event*[tiab] OR outcome*[tiab] OR reaction*[tiab])))</td>
</tr>
<tr>
<td>#11</td>
<td>Search #3 AND #4 AND #10</td>
</tr>
<tr>
<td>Search</td>
<td>Query</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
</tr>
<tr>
<td>#9 Search #3 AND #4 AND #8</td>
<td></td>
</tr>
<tr>
<td>#8 Search #5 OR #6 OR #7</td>
<td></td>
</tr>
<tr>
<td>#7 Search metaanaly*[tiab] OR &quot;meta analysis&quot;*[tiab]</td>
<td></td>
</tr>
<tr>
<td>#6 Search (control*[tiab] OR controls*[tiab] OR controlled*[tiab]) AND (trial*[tiab] OR trials*[tiab])</td>
<td></td>
</tr>
<tr>
<td>#5 Search &quot;clinical trials&quot;<em>[tiab] OR &quot;clinical trial&quot;</em>[tiab] OR random*[tiab]</td>
<td></td>
</tr>
<tr>
<td>#3 Search #1 OR #2</td>
<td></td>
</tr>
<tr>
<td>#2 Search pancreatic intraepithelial neoplas*[tiab] OR panin*[tiab] OR intraductal papillary mucinous neoplas*[tiab] OR ipmn*[tiab] OR mucinous cystic neoplas*[tiab]</td>
<td></td>
</tr>
</tbody>
</table>
**eTable 1. Inclusion and Exclusion Criteria**

<table>
<thead>
<tr>
<th>Included</th>
<th>Excluded</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td><strong>KQs 1–3:</strong> Adults age ≥18 years, with or without risk factors for pancreatic adenocarcinoma (e.g., family history of pancreatic cancer, personal history of new-onset diabetes, or other risk factors)*&lt;br&gt;KQs 4, 5: Adults with screen-detected or asymptomatic pancreatic adenocarcinoma</td>
</tr>
<tr>
<td><strong>Setting</strong></td>
<td></td>
</tr>
<tr>
<td>Studies conducted in countries categorized as “Very High” on the 2016 Human Development Index (as defined by the United Nations Development Programme)†</td>
<td></td>
</tr>
<tr>
<td><strong>Screening test</strong></td>
<td>Serum, stool, or saliva-based testing for biomarkers, such as cancer antigen 19-9, carcinoembryonic antigen, cell-surface proteins, micro-RNA, hypermethylation of specific genes in circulating DNA, circulating tumor cells, or multiple-biomarker panels</td>
</tr>
<tr>
<td>Any imaging-based screening protocol, including but not limited to computed tomography scan, endoscopic ultrasonography, magnetic resonance imaging, and abdominal ultrasonography</td>
<td></td>
</tr>
<tr>
<td><strong>Treatment</strong></td>
<td>Chemotherapy or palliative care alone</td>
</tr>
<tr>
<td>KQs 4, 5: Surgical resection, with or without chemotherapy or radiation therapy</td>
<td></td>
</tr>
<tr>
<td><strong>Comparisons</strong></td>
<td>Comparative effectiveness screening or treatment studies</td>
</tr>
<tr>
<td>KQ 1: No screening&lt;br&gt;KQ 2: Reference standard (e.g., clinical followup)&lt;br&gt;KQ 4: No treatment or delayed treatment</td>
<td>KQ 3: Incidentally identified lesions</td>
</tr>
<tr>
<td><strong>Outcomes</strong></td>
<td></td>
</tr>
<tr>
<td>KQs 1, 4: Reduced pancreatic adenocarcinoma morbidity or mortality, reduced all-cause mortality, and improved quality of life&lt;br&gt;KQ 2: Sensitivity, specificity, positive predictive value, and lesion detection rate&lt;br&gt;KQs 3, 5: Any harm from screening or treatment, including false-positive or false-negative results, serious psychological harms, or screening- or treatment-related adverse events</td>
<td>Poor-quality studies with a fatal flaw; studies occurring outside of the specified publication dates; case reports and case series; narrative reviews, commentaries, editorials, theses, qualitative studies, ecologic studies, comparative effectiveness studies, and decision analyses; studies not available in the English language</td>
</tr>
<tr>
<td><strong>Study design</strong></td>
<td></td>
</tr>
<tr>
<td>All KQs: Fair- or good-quality studies (according to design-specific USPSTF criteria) published from 2002 to the present‡&lt;br&gt;KQ 1: Randomized, controlled trials; controlled clinical trials&lt;br&gt;KQ 2: Diagnostic accuracy studies with a reference standard; systematic evidence reviews&lt;br&gt;KQs 3, 5: Randomized, controlled trials; controlled clinical trials; cohort studies; case-control studies&lt;br&gt;KQ 4: Randomized controlled trials; cohort studies</td>
<td>Poor-quality studies with a fatal flaw; studies occurring outside of the specified publication dates; case reports and case series; narrative reviews, commentaries, editorials, theses, qualitative studies, ecologic studies, comparative effectiveness studies, and decision analyses; studies not available in the English language</td>
</tr>
</tbody>
</table>

Abbreviations: DNA=deoxyribonucleic acid; RNA=ribonucleic acid.

* Results were stratified by risk factors, such as age, sex, or clinical characteristics, where possible.
† Studies consisting entirely of populations with high-risk genetic syndromes were excluded, but studies that include persons with high-risk genetic syndromes in addition to persons with other risk factors were not excluded.
‡ Studies included in the previous USPSTF review (search dates through December 2001) that meet current inclusion criteria were evaluated, but none of them met our inclusion criteria.
### eTable 2. Quality Assessment Criteria

<table>
<thead>
<tr>
<th>Study Design</th>
<th>Quality criteria</th>
</tr>
</thead>
</table>
| Randomized controlled trials USPSTF methods¹ | - Valid random assignment?  
- Was allocation concealed?  
- Was eligibility criteria specified?  
- Were groups similar at baseline?  
- Were measurements equal, valid, and reliable?  
- Was there intervention fidelity?  
- Was there adequate adherence to the intervention?  
- Were outcome assessors blinded?  
- Was there acceptable followup?  
- Were the statistical methods acceptable?  
- Was the handling of missing data appropriate?  
- Was there evidence of selective reporting of outcomes?  
- Was the device calibration and/or maintenance reported? |
| Observational studies (e.g., prospective cohort studies), adapted from the Newcastle-Ottawa Scale (NOS)² | - Was the cohort systematically selected to avoid bias?  
- Was eligibility criteria specified?  
- Were groups similar at baseline?  
- Was the outcome of interest not present at baseline?  
- Were measurements equal, valid, and reliable?  
- Were outcome assessors blinded?  
- Was there acceptable followup?  
- Were the statistical methods acceptable?  
- Was the handling of missing data appropriate? |
| Diagnostic accuracy studies adapted from QUADAS I and II³⁴ | - Screening test relevant, available for primary care, and adequately described  
- Study uses a credible reference standard performed regardless of test results  
- Reference standard interpreted independently of screening test  
- Handles indeterminate results in a reasonable manner  
- Spectrum of patients included in study  
- Sample size reported  
- Administration of reliable screening test |

Abbreviations: USPSTF = U.S. Preventive Services Task Force
eReferences