

Supplemental table 2. Detailed search strategy for key questions

1) What are the indications for PTNB for lung lesions?

Ovid MEDLINE (R) 1946 to present with daily update

N	Search term	Search result
1	exp Lung Neoplasms/ AND exp Biopsy, Needle/	4110
2	((lung or pulmo\$ or thora\$) and (nodule\$ or mass or tumo?r)).mp.	199010
3	((aspiration or needle or biopsy) and (percutaneous or diagnos\$)).tw.	147825
4	1 OR (2 AND 3)	11400
5	(guideline\$ or recommendation\$).ti. or (practice guideline or guideline).pt	101265
6	4 AND 5	50

Embase

N	Search term	Search result
1	('lung nodule'/exp OR 'lung tumor'/exp) AND ('needle biopsy'/exp OR biopsy/exp)	38275
2	((lung OR pulmo* OR thora*) AND (nodule* OR mass OR tumo?r OR percutaneous OR 'needle biopsy' OR aspiration)):ab,ti	139445
3	1 OR 2	163923
4	guideline*:ti OR recommendation*:ti	129471
5	3 and 13	644

Guidelines International Network

N	Search term	Search result
1	"lung cancer"	41
2	Needle Biopsy	2
3	lung and nodule	1
4	lung and mass	3
5	precision medicine or mutation	1
6	subsolid or part-solid or "ground glass" or repeat or rebiopsy or molecular or "targeted therapy"	23
7	Removal of duplicated items	68

Cochrane Library

N	Search term	Search result
1	MeSH descriptor: [Lung Neoplasms] explode all trees	6501
2	MeSH descriptor: [Biopsy, Needle] explode all trees	1130

3	#1 and #2	45
4	(lung or pulmo* or thora*) and (nodule* or mass or tumo?r)	5760
5	((aspiration or needle or biopsy) and (percutaneous or diagnos*))	10665
6	#3 or (#4 and #5)	410
7	(subsolid or part-solid or ground glass or repeat or rebiopsy or molecular or targeted therapy)	35593
8	MeSH descriptor: [Precision Medicine] explode all trees	332
9	MeSH descriptor: [Precision Medicine] explode all trees	2096
10	(#8 or #9) or #7	37603
11	#6 and #10	117
12	(guideline* or recommendation*) or (practice guideline or guideline)	41616
13	#11 and #12	81
14	Removal of duplicated items	81

KoreaMed

N	Search term	Search result
1	pulmonary [ALL] and mass [ALL] and guideline [ALL]	3
2	pulmonary [ALL] and tumor [ALL] and guideline [ALL]	1
3	"lung cancer" [ALL] and guideline [ALL]	17
4	Sum	21
5	Removal of duplicated items	20

KMBASE

1	[ALL=pulmonary nodule] AND [ALL=guideline]	4
2	[ALL=pulmonary nodule] AND [ALL=recommendation]	0
3	[ALL=lung cancer] AND [ALL=guideline]	46
4	Sum	50
5	Removal of duplicated items	49

KoMGI

N	Title of guideline	Year
1	* 폐암 진료지침	2010
2	* 저선량 CT를 이용한 폐암 검진 : 대한흉부영상의학회 의견 제안	2012

2) Which laboratory and imaging evaluations are appropriate for patients before PTNB?

Ovid MEDLINE (R) 1946 to present with daily update

N	Search term	Search result
1	exp Biopsy, Needle/ AND exp Lung Neoplasms/	4082
2	((lung or pulmo\$ or thora\$) and (nodule\$ or mass or tumo?r)).mp.	196537
3	((aspiration or needle or biopsy) and (percutaneous or diagnos\$)).tw.	145103
4	1 OR (2 AND 3)	11268
5	(imaging or radiolog\$ or radiograp\$ or laboratory).tw	1231366
6	exp Tomography, X-Ray Computed/ or CT.mp	486703
7	((chest OR pulmo\$) AND CT).mp	32280
8	OR/5-7	1562030
9	4 AND 8	5852
10	(guideline\$ or recommendation\$).ti. or (practice guideline or guideline).pt	99976
11	9 AND 10	31

Embase

N	Search term	Search result
1	('lung nodule'/exp OR 'lung tumor'/exp) AND ('needle biopsy'/exp OR biopsy/exp)	37548
2	((lung OR pulmo* OR thora*) AND (nodule* OR mass OR tumo?r OR percutaneous OR 'needle biopsy' OR aspiration)):ab,ti	137240
3	1 OR 2	161207
4	(coagulation or bleeding tendency or pulmonary function):ab,ti	110003
5	(preprocedural or preparation or platelet):ab,ti	594465
6	3 OR 4 OR 5	850445
7	(imaging or radiolog* or radiograp* or laboratory):ab,ti	1965761
8	'computer assisted tomography'/exp or 'laboratory test'/exp or CT:ab,ti	1227893
9	((chest OR pulmo\$) AND CT):ab,ti	17862
10	radiodiagnosis/exp	2540329
11	OR/7-10	3771009
12	6 AND 11	164176
13	guideline*:ti OR recommendation*:ti	127478
14	12 and 13	741

Guidelines International Network

N	Search term	Search result
1	"lung cancer"	41
2	Needle Biopsy	2
3	lung and nodule	1
4	lung and mass	3
5	Removal of duplicated items	46

Cochrane Library

N	Search term	Search result
1	MeSH descriptor: [Lung Neoplasms] explode all trees	6501
2	MeSH descriptor: [Biopsy, Needle] explode all trees	1130
3	#1 and #2	45
4	(lung or pulmo* or thora*) and (nodule* or mass or tumor?)	5760
5	((aspiration or needle or biopsy) and (percutaneous or diagnos*))	10665
6	#3 or (#4 and #5)	410
7	(imaging or radiolog\$ or radiograp\$ or laboratory)	117164
8	Tomography, X-Ray Computed or CT	97597
9	((chest or pulmo*) and CT)	5781
10	#7 or #8 or #9	196373
11	#6 and #10	295
12	(guideline* or recommendation*) or (practice guideline or guideline)	41616
13	#11 and #12	145
14	Removal of duplicated items	145

KoreaMed

N	Search term	Search result
1	pulmonary [ALL] and mass [ALL] and guideline [ALL]	3
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KoMGI

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1	* 폐암 진료지침	2010
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3) What are the appropriate techniques for PTNB of lung lesions?

Ovid MEDLINE (R) 1946 to present with daily update

N	Search term	Search result
1	exp Lung Neoplasms/AND exp Biopsy, Needle/	4082
2	((pulmo\$ OR thora\$) AND (nodule\$ OR percutaneous OR aspiration OR biopsy OR needle))	53192
3	(diagnostic accuracy or sensitivity or specificity).mp	1449803
4	(1 OR 2) AND 3	4642
5	(guideline\$ or recommendation\$).ti. or (practice guideline or guideline).pt	99,976
6	4 AND 5	20

Embase

N	Search term	Search result
1	('lung nodule'/exp OR 'lung tumor'/exp) AND ('needle biopsy'/exp OR biopsy/exp)	33215
2	((lung OR pulmo* OR thora*) AND (nodule* OR mass OR tumo?r OR percutaneous OR 'needle biopsy' OR aspiration)):ab,ti	137224
3	1 OR 2	158555
4	('diagnostic accuracy' or sensitivity or specificity):ab,ti	1178839
5	3 AND 4	10106
6	guideline*:ti OR recommendation*:ti	127463
7	5 AND 6	37

Guidelines International Network

N	Search term	Search result
1	"lung cancer"	41
2	Needle Biopsy	2
3	lung and nodule	1
4	lung and mass	3
5	(diagnostic accuracy or sensitivity or specificity)	1
6	Removal of duplicated items	47

Cochrane Library

N	Search term	Search result
1	MeSH descriptor: [Lung Neoplasms] explode all trees	6501
2	MeSH descriptor: [Biopsy, Needle] explode all trees	1130
3	#1 and #2	45

4	(lung or pulmo* or thora*) and (nodule* or mass or tumo?r)	5760
5	((aspiration or needle or biopsy) and (percutaneous or diagnos*))	10665
6	#3 or (#4 and #5)	410
7	(diagn* accuracy or sensitivity or specificity)	80034
8	#6 and #7	595
9	(guideline* or recommendation*) or (practice guideline or guideline)	51823
10	#8 and #9	416
11	Removal of duplicated items	416

KoreaMED

N	Search term	Search result
1	pulmonary [ALL] and mass [ALL] and guideline [ALL]	3
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KoMGI

N	Title of guideline	Year
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4) What is the appropriate management of acute PTNB-related complications?

Ovid MEDLINE (R) 1946 to present with daily update

N	Search term	Search result
1	exp Lung Neoplasms/ AND exp Biopsy, Needle/	4082
2	((pulmo\$ OR thora\$) AND (nodule\$ or percutaneous OR aspiration OR biopsy OR needle)).mp	53192
3	(manage\$ or observ\$ or hemoptysis OR air embolism OR hemothorax OR pneumothorax OR complication).mp	3957072
4	(1 OR 2) AND 3	16088
5	(guideline\$ or recommendation\$).ti. or (practice guideline or guideline).pt	99,976
6	4 AND 5	107

Embase

N	Search term	Search result
1	('lung nodule'/exp OR 'lung tumor'/exp) AND ('needle biopsy'/exp OR biopsy/exp)	37538
2	((lung OR pulmo* OR thora*) AND (nodule* OR mass OR tumo?r OR percutaneous OR 'needle biopsy' OR aspiration)):ab,ti	137240
3	1 OR 2	161207
4	(manage\$ or observ\$ or hemoptysis OR 'air embolism' OR hemothorax OR pneumothorax OR complication):ab,ti	924323
5	3 AND 4	15629
6	guideline*:ti OR recommendation*:ti	127,478
7	5 AND 6	63

Guidelines International Network

N	Search term	Search result
1	"lung cancer"	41
2	Needle Biopsy	2
3	lung and nodule	1
4	lung and mass	3
5	hemoptysis	2
6	Removal of duplicated items	48

Cochrane Library

N	Search term	Search result
1	MeSH descriptor: [Lung Neoplasms] explode all trees	6501

2	MeSH descriptor: [Biopsy, Needle] explode all trees	1130
3	#1 and #2	45
4	(lung or pulmo* or thora*) and (nodule* or mass or tumo?r)	5760
5	((aspiration or needle or biopsy) and (percutaneous or diagnos*))	10665
6	#3 or (#4 and #5)	410
7	(manage or observ* or hemoptysis or air embolism or hemothorax or pneumothorax or complication)	330712
8	#6 and #7	304
9	(guideline* or recommendation*) or (practice guideline or guideline)	41616
10	#8 and #9	180
11	Removal of duplicated items	180

KoreaMED

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