

Appendix 1 Search summary

Performed on: February 25, 2021
 With the help of: Faridi Jamaludin, Amsterdam UMC, Medical Library AMC

Databases:

MEDLINE (Ovid), EMBASE (Ovid), Cochrane Library	Before deduplication	After deduplication
Total	1,562	1,142

MEDLINE (Ovid)

Database(s): Ovid MEDLINE(R) ALL; 1947 to

Search Strategy:

#	Searches	Results
1	exp Thoracic Surgical Procedures/ or Thoracic Surgery/ or exp Cardiovascular Surgical Procedures/ or exp Cardiac Surgical Procedures/ or exp Thoracic Diseases/	551,140
2	((cardi* or heart or vascular or thoracic* or thorax) adj3 (surg* or operat*)).ti,ab,kw,kf.	137,200
3	1 or 2	612,707
4	exp Artificial Intelligence/	107,748
5	(artificial intelligence or machine learning or deep learning or deep neural network or neural network* or machine intelligence or computational intelligence or computer reasoning or predictive analytics or cognitive comput* or computer vision system* or naive bayes or bayesian learning or support vector* or automated or automatic or random forest* or boosting or automatic anesthe* or automatic anaesthe* or automated cardiac anesthe* or automated cardiac anaesthe*).ti,ab,kw,kf.	309,465
6	4 or 5	365,261
7	exp Anesthesia/ or Anesthesiology/	209,295
8	(anesth* or anaesthes* or intraoperat*).ti,ab,kw,kf.	479,483
9	(undergo* adj3 (surg* or operat* or replac*)).ti,ab,kw,kf.	107,044
10	7 or 8 or 9	632,036
11	3 and 6 and 10	680
12	(exp Animals/ or exp Animal Experimentation/ or exp models, animal/ or (rat or rats or mice or mouse or dog or dogs or pig or pigs or cow or cows or monkey or monkeys or goat or goats or horse or horses or ape or apes or gorilla or gorillas).ti,ab,kw.) not (Humans/ or human*.ti,ab,kw.)	4,735,867
13	11 not 12	653
14	comment/ or editorial/ or letter/ or (letter or comment* or editorial).ti.	2,019,154
15	13 not 14	648

EMBASE (Ovid)

Database(s): EMBASE Classic + EMBASE; 1947 to February 25, 2021

Search Strategy:

#	Searches	Results
1	exp thorax surgery/ or exp cardiovascular surgery/ or exp heart surgery/ or exp thorax disease/	1,154,605
2	((cardi* or heart or vascular or thoracic* or thorax) adj3 (surg* or operat*)).ti,ab,kw.	220,373
3	1 or 2	1,212,463
4	exp artificial intelligence/ or exp machine learning/	253,856
5	(artificial intelligence or machine learning or deep learning or deep neural network or neural network* or machine intelligence or computational intelligence or computer reasoning or predictive analytics or cognitive comput* or computer vision system* or naive bayes or bayesian learning or support vector* or automated or automatic or random forest* or boosting or automatic anesthe* or automatic anaesthe* or automated cardiac anesthe* or automated cardiac anaesthe*).ti,ab,kw.	418,467
6	4 or 5	552,770
7	exp anesthesia/ or cardiac anesthesia/ or anesthesiology/ or receiver operating characteristic/	552,219
8	(anesth* or anaesthes* or intraoperat*).ti,ab,kw.	682,092
9	(undergo* adj3 (surg* or operat* or replac*)).ti,ab,kw.	161,477
10	7 or 8 or 9	1,079,643
11	3 and 6 and 10	1,231
12	(exp animal/ or exp animal experiment/ or exp animal model/ or (rat or rats or mice or mouse or dog or dogs or pig or pigs or cow or cows or monkey or monkeys or goat or goats or horse or horses or ape or apes or gorilla or gorillas).ti,ab,kw.) not (human/ or human*.ti,ab,kw.)	5,723,322
13	11 not 12	1,183
14	letter/ or editorial/ or note/ or (letter or comment* or editorial).ti.	2,684,107
15	13 not 14	1,169
16	limit 15 to conference abstract status	401
17	15 not 16	768

#	Searches	Results
1	MeSH descriptor: [Thoracic Surgical Procedures] explode all trees	15,672
2	MeSH descriptor: [Thoracic Surgery] explode all trees	164
3	MeSH descriptor: [Cardiovascular Surgical Procedures] explode all trees	19,951
4	MeSH descriptor: [Cardiac Surgical Procedures] explode all trees	12,945
5	MeSH descriptor: [Thoracic Diseases] explode all trees	172
6	((cardi* or heart or vascular or thoracic* or thorax) near/3 (surg* or operat*)):ti,ab,kw	22,803
7	#1 or #2 or #3 or #4 or #5 or #6	39,277
8	MeSH descriptor: [Artificial Intelligence] explode all trees	1,062
9	(artificial intelligence or machine learning or deep learning or deep neural network or neural network* or machine intelligence or computational intelligence or computer reasoning or predictive analytics or cognitive comput* or computer vision system* or naive bayes or bayesian learning or support vector* or automated or automatic or random forest* or boosting or automatic anesthe* or automatic anaesthe* or automated cardiac anesthe* or automated cardiac anaesthe*):ti,ab,kw	23,612
10	#8 or #9	24,277
11	(anesth* or anaesthes* or intraoperat*):ti,ab,kw	98,381
12	(undergo* near/3 (surg* or operat* or replac*)):ti,ab,kw	29,516
13	#11 or #12	114,026
14	#7 and #10 and #13	150