PICO A
Date of search : 1st July 2019

1/ SEARCH STRATEGY

Medline

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to June 27, 2019>
Search Strategy:

1     PEFV.ti,ab,kf. (54)
2     ((diurnal* or circadian or variation* or variability or fluctuat* or alter* or increas* or decreases* or chang*) adj3 (PEF or PEFR or PFR or peak expiratory flow* or peak flow*)).ti,ab,kf. (2932)
3     peak expiratory flow rate/ (5577)
4     exp circadian rhythm/ (68843)
5     3 and 4 (263)
6     1 or 2 or 5 (3106)
7     exp Bronchodilator Agents/ (259018)
8     bronchoreversibilit*.ti,ab,kf. (9)
9     ((bronchodilator* or bronchial dilat* or broncholytic*) adj3 (test* or revers* or respons* or respond* or agent* or effect*)).ti,ab,kf. (4322)
10    (BDR or BDT).ti,ab,kf. (910)
11    or/7-10 (261141)
12    exp Mannitol/ (12367)
13    exp histamine/ (36915)
14    methacholine chloride/ (5268)
15    (mannitol* or histamine* or methacholine*).ti,ab,kf. (85975)
16    Bronchial Provocation Tests/ (8562)
17    (inhalation or provocation or provoke* or challenge*).ti,ab,kf. (689622)
18    (hyperresponsiv* or hyperreactiv*).ti,ab,kf. (17521)
19    Bronchial Hyperreactivity/ (7273)
20    or/12-15 (99440)
21    or/16-19 (704306)
22    20 and 21 (14941)
23    Vital Capacity/ (14984)
24    ((expiratory or inspiratory) adj2 (reserv* or volume* or capacit* or flow)).ti,ab,kf. (31467)
25    Forced Expiratory Volume/ (24593)
26    (FEV1 or FEV 1 or FVC or fevt or fef or FEV*).ti,ab,kf. (203501)
27    (flow volume adj2 (loop* or curve* or graph*)).ti,ab,kf. (2142)
28    (forced expiratory volume* adj6 ("1" or one)).ti,ab,kf. (15783)
29    ((force* or time*) adj vital capacit*).ti,ab,kf. (10331)
30    Spirometry/ (20470)
31    spirometr*.ti,ab,kf. (20641)
32    bronchospirometr*.ti,ab,kf. (337)
33    or/23-32 (251984)
34    respiratory function test/ (44938)
35    respiratory sounds/ (8547)
36    cough/ (15060)
37    dyspnea/ (19926)
38    (wheez* or rhonchi or cough* or breathless* or dyspnea).ti,ab,kf. (89305)
39    (airway* adj1 (inflammation or obstructi*)).ti,ab,kf. (33404)
40    or/34-39 (173717)
41    6 or 11 or 22 or 33 or 40 (639183)
42    exp "Sensitivity and Specificity"/ (555489)
43    sensitivit*.ti,ab,kf. (766589)
specificit*.ti,ab,kf. (461093)
(positive or negative) adj1 predictive adj1 value*.ti,ab,kf. (60495)
PPV.ti,ab,kf. (15726)
NPV.ti,ab,kf. (10234)
signal adj2 noise adj2 ratio*.ti,ab,kf. (28975)
(roc adj1 (curve* or analy*)).ti,ab,kf. (38787)
("receiver operating characteristics* adj2 (curve* or analy*)).ti,ab,kf. (5857)
("receiver operating characteristic* adj2 (curve* or analy*)).ti,ab,kf. (49212)
((false or true) adj2 (positi* or negati*)).ti,ab,kf. (77432)
exp area under curve/ (37932)
(area adj under adj2 curve*).ti,ab,kf. (47749)
auc.ti,ab,kf. (60839)
likelihood functions/ (21245)
(likelihood adj2 (ratio* or function* or estimate*)).ti,ab,kf. (18623)
(diagnos* adj2 (performance* or power or accurac* or utilit* or value* or efficien* or
effectiveness or concordance)).ti,ab,kf. (102762)
kappa.ti,ab,kf. (86145)
discriminat* adj2 power).ti,ab,kf. (8842)
c statistic*.ti,ab,kf. (5676)
predictive value of tests/ (192020)
accura*.ti,ab,kf. (736040)
Reference Values/ (157161)
or/42-64 (2329610)
Eosinophils/ (22932)
Eosinophilia/ (14428)
((blood* or serum) adj2 eosinophil*).ti,ab,kf. (5813)
or/66-68 (37491)
41 and 65 and 69 (620)
limit 70 to (english language and humans) (491)
limit 71 to "all adult (19 plus years)" (331)

**Scopus**

((TITLE-ABS-KEY (pefv)) OR (TITLE-ABS-KEY ((diurnal OR circadian OR variation OR variability OR fluctuat* OR alter* OR increa
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flow" OR "peak flow"))) OR ((TITLE-ABS-KEY ("peak expiratory flow
rate")) AND (TITLE-ABS-KEY ("circadian rhythm")))) OR ((TITLE-ABS-
KEY (bronchoreversibility)) OR (TITLE-ABS-KEY ((bronchodilator OR "bronchial
dilat" OR broncholytic) W/3 (test OR revers* OR response OR respond* OR agent OR
effect))) OR (TITLE-ABS-KEY (bdr OR bdt))) OR ((TITLE-ABS-
KEY (mannitol OR histamine OR metacholine)) AND (TITLE-ABS-
KEY (bronchial W/2 (hyperreactivity OR hyperresponsive* OR "provocation
test" OR challenge)))) OR ((TITLE-ABS-KEY ("vital capacity")) OR (TITLE-ABS-
KEY ((expiratory OR inspiratory) W/2 (reserve OR volume OR capacity OR flow))) OR
(TITLE-ABS-KEY (fev1 OR "fev 1" OR fvc OR fev1 OR fef OR fev)) OR (TITLE-ABS-
KEY ("forced expiratory volume")) OR (TITLE-ABS-KEY ("flow
volume" W/2 (loop OR curve OR graph*))) OR (TITLE-ABS-
KEY (force OR time) W/2 "vital capacity") OR (TITLE-ABS-
KEY (spirometry)) OR (TITLE-ABS-KEY (bronchospirometry)) OR ((TITLE-ABS-
KEY ("respiratory function test") OR (TITLE-ABS-KEY ("respiratory sound")) OR (TITLE-ABS-KEY (cough OR dyspnea OR wheezing OR rhonchi OR breathless)) OR (TITLE-ABS-KEY (airway W/1 (inflammation OR obstruction))) AND ((TITLE-ABS-KEY (sensitivity OR specificity)) OR (TITLE-ABS-KEY ((positive OR negative) W/1 predictive W/1 value)) OR (TITLE-ABS-KEY (ppv OR npv)) OR (TITLE-ABS-KEY (signal W/2 noise W/2 ratio)) OR (TITLE-ABS-KEY (roc W/1 (curve OR analysis))) OR (TITLE-ABS-KEY ("receiver operating characteristics" W/2 (curve OR analysis))) OR (TITLE-ABS-KEY ((false OR true) W/2 (positive OR negative))) OR (TITLE-ABS-KEY (area W/1 curve)) OR (TITLE-ABS-KEY (auc)) OR (TITLE-ABS-KEY (likelihood W/2 (ratio OR function OR estimate))) OR (TITLE-ABS-KEY (diagnosis W/2 (performance OR power OR accuracy OR utility OR value OR efficiency OR effectiveness OR concordance))) OR (TITLE-ABS-KEY (kappa)) OR (TITLE-ABS-KEY (discriminant* W/2 power)) OR (TITLE-ABS-KEY (accuracy)) OR (TITLE-ABS-KEY ((predictive OR reference) W/1 value)) AND (TITLE-ABS-KEY ((blood OR serum) W/2 eosinophil*)) AND (LIMIT-TO (EXACTKEYWORD, "Human")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (EXACTKEYWORD, "Adult"))

2/ SELECTION DATABASE

References found on Medline : 331
References found on scopus : 196
Total references included in Excel database (after duplicates removal) : 441
PICO B
Date of search : 1st July 2019

1/ SEARCH STRATEGY

Medline

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to June 27, 2019>

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3 peak expiratory flow rate/ (5577)
4 exp circadian rhythm/ (68843)
5 3 and 4 (263)
6 1 or 2 or 5 (3106)
7 exp Bronchodilator Agents/ (259018)
8 bronchoreversibilit*.ti,ab,kf. (9)
9 ((bronchodilator* or bronchial dilat* or broncholytic*) adj3 (test* or revers* or respons* or respond* or agent* or effect*)).ti,ab,kf. (4322)
10 (BDR or BDT).ti,ab,kf. (910)
11 or/7-10 (261141)
12 exp Mannitol/ (12367)
13 exp histamine/ (36915)
14 methacholine chloride/ (5268)
15 (mannitol* or histamine* or methacholine*).ti,ab,kf. (85975)
16 Bronchial Provocation Tests/ (8562)
17 (inhaletion or provocation or provoke* or challenge*).ti,ab,kf. (689622)
18 (hyperresponsiv* or hyperreactiv*).ti,ab,kf. (17521)
19 Bronchial Hyperreactivity/ (7273)
20 or/12-15 (99440)
21 or/16-19 (704306)
22 20 and 21 (14941)
23 Vital Capacity/ (14984)
24 ((expiratory or inspiratory) adj2 (reserv* or volume* or capacit* or flow)).ti,ab,kf. (31467)
25 Forced Expiratory Volume/ (24593)
26 (FEV1 or FEV 1 or FVC or fevt or fef or FEV*).ti,ab,kf. (203501)
27 (flow volume adj2 (loop* or curve* or graph*)).ti,ab,kf. (2142)
28 (forced expiratory volume* adj6 ("1" or one)).ti,ab,kf. (15783)
29 ((force* or time*) adj vital capacit*).ti,ab,kf. (10331)
30 Spirometry/ (20470)
31 spirometr*.ti,ab,kf. (20641)
32 bronchspiromet*r*.ti,ab,kf. (337)
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35 respiratory sounds/ (8547)
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37 dyspnea/ (19926)
38 (wheez* or rhonchi or cough* or breathless* or dyspnea).ti,ab,kf. (89305)
39 (airway* adj1 (inflammation or obstructi*)).ti,ab,kf. (33404)
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41 6 or 11 or 22 or 33 or 40 (639183)
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43 sensitivit*.ti,ab,kf. (766589)
specificit*,ti,ab,kf. (461093)
((positive or negative) adj1 predictive adj1 value*),ti,ab,kf. (60495)
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NPV.ti,ab,kf. (100234)
signal adj2 noise adj2 ratio*),ti,ab,kf. (28975)
roc adj1 (curve* or analys*),ti,ab,kf. (38787)
("receiver operating characteristics" adj2 (curve* or analys*),ti,ab,kf. (5857)
("receiver operating characteristic" adj2 (curve* or analys*),ti,ab,kf. (49212)
((false or true) adj2 (positive or negative) adj1 predictive adj1 value*),ti,ab,kf. (60495)
specificit*.ti,ab,kf. (461093)
ABS-KEY ( airway W/1 (inflammation OR obstruction ))) AND (( TITLE-ABS-KEY (sensitivity OR specificity )) OR ( TITLE-ABS-KEY ((positive OR negative) W/1 predictive W/1 value )) OR ( TITLE-ABS-KEY (ppv OR npv )) OR ( TITLE-ABS-KEY (signal W/2 noise W/2 ratio )) OR ( TITLE-ABS-KEY (roc W/1 (curve OR analysis ))) OR ( TITLE-ABS-KEY ("receiver operating characteristics" W/2 (curve OR analysis ))) OR ( TITLE-ABS-KEY ((false OR true) W/2 (positive OR negative ))) OR ( TITLE-ABS-KEY (area W/1 curve )) OR ( TITLE-ABS-KEY (likelihood W/2 (ratio OR function OR estimate ))) OR ( TITLE-ABS-KEY (diagnosis W/2 (performance OR power OR accuracy OR utility OR value OR efficiency OR effectiveness OR concordance ))) OR ( TITLE-ABS-KEY (kappa )) OR ( TITLE-ABS-KEY (discrimination W/2 power )) OR ( TITLE-ABS-KEY (accuracy )) OR ( TITLE-ABS-KEY ((predictive OR reference) W/1 value ))) AND (( TITLE-ABS-KEY (pefv )) OR ( TITLE-ABS-KEY ((diurnal OR circadian OR variation OR variability OR fluctuation OR alteration OR increase OR decrease OR change) W/3 (pef OR pefr OR pfr OR "peak expiratory flow" OR "peak flow" ))) OR (( TITLE-ABS-KEY ("peak expiratory flow rate"))) AND ( TITLE-ABS-KEY ("circadian rhythm"))) AND ( LIMIT-TO ( EXACTKEYWORD , "Human" ) OR LIMIT-TO ( EXACTKEYWORD , "Adult" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )

2/ SELECTION DATABASE

References found on Medline : 223
References found on scopus : 301
Total references included in Excel database (after duplicates removal) : 389
PICO 3
Date of search : 1st July 2019

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11. or/7-10 (261141)
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(area adj under adj2 curve*).ti,ab,kf. (47749)
auc.ti,ab,kf. (60839)
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predictive value of tests/ (192020)
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Reference Values/ (157161)
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FeNO.ti,ab,kf. (1816)
(Fe or exhal* or fraction*) adj2 (NO or nitric or nitrogen).ti,ab,kf. (8118)
or/66-67 (8411)
41 and 65 and 68 (907)
limit 69 to (english language and humans and "all adult (19 plus years)") (435)

Scopus

( TITLE-ABS-KEY ( pefv ) ) OR ( TITLE-ABS-KEY ( diurnal OR circadian OR variation OR variability OR fluctuat* OR alter* OR increase OR decrease OR change ) W/3 ( pef OR pefr OR pfr OR "peak expiratory flow" OR "peak flow" ) ) OR (( TITLE-ABS-KEY ( "peak expiratory flow rate" ) ) AND ( TITLE-ABS-KEY ( "circadian rhythm" ) ) ) OR ( ( TITLE-ABS-KEY ( bronchoreversibility ) ) OR ( TITLE-ABS-KEY ( bronchodilator OR "bronchial dilat" OR broncholytic ) W/3 ( test OR revers* OR response OR respond* OR agent OR effect ) ) ) OR ( TITLE-ABS-KEY ( bdr OR bdt ) ) OR (( TITLE-ABS-KEY ( mannitol OR histamine OR metacholine ) ) AND ( TITLE-ABS-KEY ( bronchial W/2 ( hyperreactivity OR hyperresponsiv* OR "provocation test" OR challenge ) ) ) ) OR (( TITLE-ABS-KEY ( "vital capacity" ) ) OR ( TITLE-ABS-KEY ( ( expiratory OR inspiratory ) W/2 ( reserve OR volume OR capacity OR flow ) ) ) OR ( TITLE-ABS-KEY ( fev1 OR "fev 1" OR fvc OR fevt OR fef OR fev ) ) OR ( TITLE-ABS-KEY ( "forced expiratory volume" ) ) OR ( TITLE-ABS-KEY ( "flow volume" W/2 ( loop OR curve OR graph* ) ) ) OR ( TITLE-ABS-KEY ( ( force OR time ) W/2 "vital capacity" ) ) OR ( TITLE-ABS-KEY ( spirometry ) ) OR ( TITLE-ABS-KEY ( bronchospirometry ) ) ) OR (( TITLE-ABS-KEY ( "respiratory function test" ) ) OR ( TITLE-ABS-KEY ( "respiratory sound" ) ) OR ( TITLE-ABS-KEY ( cough OR dyspnea OR wheezing OR rhonchi OR breathless ) ) OR ( TITLE-ABS-KEY ( airway W/1 ( inflammation OR obstruction ) ) ) ) ) AND (( TITLE-ABS-KEY ( sensitivity OR specificity ) ) OR ( TITLE-ABS-KEY ( ( positive OR negative ) W/1 predictive W/1 value ) ) OR ( TITLE-ABS-KEY ( ppv OR npv ) ) OR ( TITLE-ABS-KEY ( signal W/2 noise W/2 ratio ) ) OR ( TITLE-ABS-KEY ( roc W/1 ( curve OR analysis ) ) ) OR ( TITLE-ABS-KEY ( "receiver operating characteristic" ) )
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TO ( EXACTKEYWORD , "Adult" )) AND ( LIMIT-TO ( LANGUAGE , "English" ))

2/ SELECTION DATABASE

References found on Medline : 435
References found on scopus : 747
Total references included in Excel database (after duplicates removal) : 891
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<td>cough/ (15060)</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>dyspnea/</td>
<td>19926</td>
</tr>
<tr>
<td>38</td>
<td>(wheez* or rhonchi or cough* or breathless* or dyspnea).ti,ab,kf.</td>
<td>89305</td>
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<td>39</td>
<td>(airway* adj1 (inflammation or obstructi*)).ti,ab,kf.</td>
<td>33404</td>
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<td>40</td>
<td>or/34-39 (173717)</td>
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<tr>
<td>41</td>
<td>6 or 11 or 22 or 33 or 40 (639183)</td>
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<tr>
<td>42</td>
<td>exp &quot;Sensitivity and Specificity&quot;/</td>
<td>555489</td>
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<td>43</td>
<td>sensitivit*.ti,ab,kf.</td>
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specificit*.ti,ab,kf. (461093)
((positive or negative) adj1 predictive adj1 value*).ti,ab,kf. (60495)
PPV.ti,ab,kf. (15726)
NPV.ti,ab,kf. (10234)
(signal adj2 noise adj2 ratio*).ti,ab,kf. (28975)
(roc adj1 (curve* or analys*)).ti,ab,kf. (38787)
("receiver operating characteristics" adj2 (curve* or analys*).ti,ab,kf. (5857)
((false or true) adj2 (positi* or negati*)).ti,ab,kf. (77432)
exp area under curve/ (37932)
(area adj under adj2 curve*).ti,ab,kf. (47749)
likelihood functions/ (21245)
(likelihood adj2 (ratio* or function* or estimate*).ti,ab,kf. (18623)
(diagnos* adj2 (performance* or power or accurac* or utilit* or value* or efficien* or
effectiveness or concordance)).ti,ab,kf. (102762)
kappa.ti,ab,kf. (86145)
discriminat* adj2 power).ti,ab,kf. (8842)
c statistic*.ti,ab,kf. (5676)
predictive value of tests/ (192020)
accura*.ti,ab,kf. (736040)
limit 78 to (english language and humans and "all adult (19 plus years)") (248)

Scopus

((TITLE-ABS-KEY (pefv)) OR (TITLE-ABS-KEY ((diurnal OR circadian OR variation OR variability OR fluctuat* OR alter* OR increa-
se OR decrease OR change) W/3 (pef OR pefr OR pfr OR "peak expiratory flow" OR "peak flow") ) OR ((TITLE-ABS-KEY ("peak expiratory flow rate") ) AND (TITLE-ABS-KEY ("circadian rhythm") ))) OR ((TITLE-ABS-KEY (bronchoreversibility)) OR (TITLE-ABS-KEY ((bronchodilator OR "bronchial
dilat" OR broncholytic) W/3 (test OR revers* OR response OR respond* OR agent OR
effect ))) OR (TITLE-ABS-KEY (bdr OR bdt))) OR ((TITLE-ABS-KEY (mannotil OR histamine OR metacholine)) AND (TITLE-ABS-KEY (bronchial W/2 (hyperreactivity OR hyperresponsiv* OR "provocation
test" OR challenge))) OR ((TITLE-ABS-KEY ("vital capacity")) OR (TITLE-ABS-KEY (expiratory OR inspiratory) W/2 (reserve OR volume OR capacity OR flow))) OR ((TITLE-ABS-KEY (fev1 OR "fev 1" OR fvc OR fev OR fet OR fef OR fev)) OR (TITLE-ABS-KEY ("forced expiratory volume")) OR (TITLE-ABS-KEY ("flow volume" W/2 (loop OR curve OR graph*))) OR (TITLE-ABS-
KEY ( ( force OR time ) W/2 "vital capacity" ) OR ( TITLE-ABS-KEY ( spirometry ) ) OR ( TITLE-ABS-KEY ( bronchospirometry ) ) OR ( ( TITLE-ABS-KEY ( "respiratory function test" ) ) OR ( TITLE-ABS-KEY ( "respiratory sound" ) ) OR ( TITLE-ABS-KEY ( cough OR dyspnea OR wheezing OR rhonchi OR breathless ) ) OR ( TITLE-ABS-KEY ( airway W/1 ( inflammation OR obstruction ) ) ) ) AND ( ( TITLE-ABS-KEY ( sensitivity OR specificity ) ) OR ( TITLE-ABS-KEY ( ( positive OR negative ) W/1 predictive W/1 value ) ) OR ( TITLE-ABS-KEY ( ppv OR npv ) ) OR ( TITLE-ABS-KEY ( signal W/2 noise W/2 ratio ) ) OR ( TITLE-ABS-KEY ( roc W/1 ( curve OR analysis ) ) ) OR ( TITLE-ABS-KEY ( "receiver operating characteristics" W/2 ( curve OR analysis ) ) ) OR ( TITLE-ABS-KEY ( diagnosis W/2 ( performance OR power OR accura* OR utility OR value OR efficie n* OR effectiveness OR concordance ) ) ) OR ( TITLE-ABS-KEY ( kappa ) ) OR ( TITLE-ABS-KEY ( discriminat* W/2 power ) ) OR ( TITLE-ABS-KEY ( accuracy ) ) OR ( TITLE-ABS-KEY ( ( predictive OR reference ) W/1 value ) ) ) ) AND ( ( TITLE-ABS-KEY ( radioallergosorbent ) ) OR ( TITLE-ABS-KEY ( rast ) ) OR ( TITLE-ABS-KEY ( ( radioimmunosorbent W/2 ( test OR assay ) ) ) ) OR ( TITLE-ABS-KEY ( "Immunoglobulin E" OR ige ) ) ) AND ( TITLE-ABS-KEY ( allergens OR aeroallergens ) ) ) AND ( LIMIT-TO ( EXACTKEYWORD , "Human" ) OR LIMIT-TO ( EXACTKEYWORD , "Adult" ) ) AND ( LIMIT-TO ( LANGUAGE , "English" ) )

2/ SELECTION DATABASE

References found on Medline : 248
References found on scopus : 613
Total references included in Excel database (after duplicates removal) : 753
PICO 5
Date of search : 15th July 2019

1/ SEARCH STRATEGY

Medline

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to July 15, 2019>
Search Strategy:

1  PEFV.ti,ab,kf. (54)
2  ((diurnal* or circadian or variation* or variability or fluctuat* or alter* or increas* or decreas* or chang*) adj3 (PEF or PEFR or PFR or peak expiratory flow* or peak flow*)).ti,ab,kf. (2935)
3  peak expiratory flow rate/ (5579)
4  exp circadian rhythm/ (68900)
5  3 and 4 (263)
6  1 or 2 or 5 (3109)
7  exp Bronchodilator Agents/ (259214)
8  bronchoreversibilit*.ti,ab,kf. (9)
9  ((bronchodilator* or bronchial dilat* or broncholytic*) adj3 (test* or revers* or respons* or respond* or agent* or effect*)).ti,ab,kf. (4327)
10  (BDR or BDT).ti,ab,kf. (914)
11  or/7-10 (261346)
12  exp Mannitol/ (12378)
13  exp histamine/ (36929)
14  methacholine chloride/ (5268)
15  (mannitol* or histamine* or methacholine*).ti,ab,kf. (86067)
16  Bronchial Provocation Tests/ (8564)
17  (inhalation or provocation or provoke* or challenge*).ti,ab,kf. (692651)
18  (hyperresponsiv* or hyperreactiv*).ti,ab,kf. (17552)
19  Bronchial Hyperreactivity/ (7275)
20  or/12-15 (99534)
21  or/16-19 (707357)
22  20 and 21 (14948)
23  Vital Capacity/ (15004)
24  ((expiratory or inspiratory) adj2 (reserv* or volume* or capacit* or flow)).ti,ab,kf. (31551)
25  Forced Expiratory Volume/ (24627)
26  (FEV1 or FEV 1 or FVC or fevt or fef or FEV*).ti,ab,kf. (203983)
27  (flow volume adj2 (loop* or curve* or graph*)).ti,ab,kf. (2142)
28  (forced expiratory volume* adj6 ("1" or one)).ti,ab,kf. (15827)
29  ((force* or time*) adj vital capacit*).ti,ab,kf. (10381)
30  Spirometry/ (20493)
31  spirometr*.ti,ab,kf. (20706)
32  bronchspirometr*.ti,ab,kf. (337)
33  or/23-32 (252550)
34  respiratory function test/ (44988)
35  respiratory sounds/ (8562)
36  cough/ (15077)
37  dyspnea/ (19971)
38  (wheez* or rhonchi or cough* or breathless* or dyspnea).ti,ab,kf. (89569)
39  (airway* adj1 (inflammation or obstructi*)).ti,ab,kf. (33480)
40  or/34-39 (174116)
41  6 or 11 or 22 or 33 or 40 (640241)
42  exp "Sensitivity and Specificity"/ (556477)
43 sensitiv*,ti,ab,kf. (768928)
44 specificit*,ti,ab,kf. (462323)
45 ((positive or negative) adj1 predictive adj1 value*).ti,ab,kf. (60689)
46 PPV.ti,ab,kf. (15804)
47 NPV.ti,ab,kf. (10292)
48 (signal adj2 noise adj2 ratio*).ti,ab,kf. (29088)
49 ((receiver operating characteristics* adj2 (curve* or analys*)).ti,ab,kf. (5888)
50 ((false or true) adj2 (positi* or negati*)).ti,ab,kf. (77630)
51 exp area under curve/ (38000)
52 (area adj under adj2 curve*).ti,ab,kf. (48043)
53 auc.ti,ab,kf. (61184)
54 likelihood functions/ (21271)
55 (likelihood adj2 (ratio* or function* or estimate*)).ti,ab,kf. (18701)
56 diagnos* adj2 (performance* or power or accurac* or utilit* or value* or efficien* or effectiveness or concordance)).ti,ab,kf. (103206)
57 kappa.ti,ab,kf. (86420)
58 discriminat* adj2 power).ti,ab,kf. (8870)
59 c statistic*.ti,ab,kf. (5716)
60 Reference Values/ (157260)
61 or/42 - 64 (2336300)
62 41 and 65 and 22 (2279)
63 limit 66 to (english language and humans and "all adult (19 plus years)") (1105)

Scopus

((((TITLE-ABS-KEY (pefv ))) OR ((TITLE-ABS-KEY (diurnal OR circadian OR variation OR variability OR fluctuat* OR alteration* OR increase OR decrease OR change ) W/3 (pef OR pefr OR pr OR "peak expiratory flow" OR "peak flow") ))) OR ((( TITLE-ABS-KEY ("peak expiratory flow rate" ))) AND (TITLE-ABS-KEY ("circadian rhythm" ))) ) ) OR ((( TITLE-ABS-KEY ( bronchoreversibility ))) OR (TITLE-ABS-KEY ( (bronchodilator OR "bronchial dilatation")) OR (broncholytic ) W/3 (test OR revers* OR response OR respond* OR agent OR effect ))) OR (TITLE-ABS-KEY ( bdr OR bdt ))) OR ((( TITLE-ABS-KEY (mannitol OR histamine OR metacholine ))) AND (TITLE-ABS-KEY (bronchial W/2 (hyperreactivity OR hyperresponsiveness*) OR "provocation test" OR challenge ))) ) ) OR ((( TITLE-ABS-KEY ("vital capacity") ))) OR (TITLE-ABS-KEY ( (expiratory OR inspiratory ) W/2 (reserve OR volume OR capacity OR flow ))) OR (TITLE-ABS-KEY (fev1 OR "fev 1" OR fvc OR fevt OR fef OR fev )) OR (TITLE-ABS-KEY ("forced expiratory volume") )) OR (TITLE-ABS-KEY ("flow volume") W/2 (loop OR curve OR graph*)) ) ) OR (TITLE-ABS-KEY ( (force OR time ) W/2 "vital capacity") ))) OR (TITLE-ABS-
KEY (spirometry)) OR (TITLE-ABS-
KEY (bronchospirometry))) OR ((TITLE-ABS-KEY ("respiratory function
test")) OR (TITLE-ABS-KEY ("respiratory sound")) OR (TITLE-ABS-
KEY (cough OR dyspnea OR wheezing OR rhonchi OR breathless)) OR 
(TITLE-ABS-
KEY (airway W/1 (inflammation OR obstruction)))) AND ((TITLE-ABS-
KEY (sensitivity OR specificity)) OR (TITLE-ABS-
KEY ((positive OR negative) W/1 predictive W/1 value)) OR (TITLE-
ABS-KEY (ppv OR npv)) OR (TITLE-ABS-
KEY (signal W/2 noise W/2 ratio)) OR (TITLE-ABS-
KEY (roc W/1 (curve OR analysis))) OR (TITLE-ABS-KEY ("receiver 
operating characteristics" W/2 (curve OR analysis))) OR (TITLE-ABS-
KEY ((false OR true) W/2 (positive OR negative))) OR (TITLE-ABS-
KEY (area W/1 curve)) OR (TITLE-ABS-KEY (auc)) OR (TITLE-ABS-
KEY (likelihood W/2 (ratio OR function OR estimate))) OR (TITLE-ABS-
KEY (diagnosis W/2 (performance OR power OR accuracy OR utility OR 
value OR efficiency OR effectiveness OR concordance))) OR (TITLE-ABS-
KEY (kappa)) OR (TITLE-ABS-
KEY (discriminant W/2 power)) OR (TITLE-ABS-
KEY (accuracy)) OR (TITLE-ABS-
KEY ((predictive OR reference) W/1 value))) AND (((TITLE-ABS-
KEY (mannitol OR histamine OR metacholine)) AND (TITLE-ABS-
KEY (bronchial W/2 (hyperreactivity OR hyperresponsiv* OR "provocation
test" OR challenge)))) AND (LIMIT-
TO (EXACTKEYWORD, "Human") OR LIMIT-
TO (EXACTKEYWORD, "Adult") AND (LIMIT-
TO (LANGUAGE, "English"))

2/ SELECTION DATABASE

References found on Medline : 1105
References found on scopus : 497
Total references included in Excel database (after duplicates removal) : 1404
1/ SEARCH STRATEGY

Medline

Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to July 15, 2019>
Search Strategy:

1 exp Mannitol/ (12378)
2 exp histamine/ (36929)
3 methacholine chloride/ (5268)
4 (mannitol* or histamine* or methacholine*).ti,ab,kf. (86067)
5 Bronchial Provocation Tests/ (8564)
6 (inhalation or provocation or provoke* or challenge*).ti,ab,kf. (692651)
7 (hyperresponsiv* or hyperreactiv*).ti,ab,kf. (17552)
8 Bronchial Hyperreactivity/ (7275)
9 or/1-4 (99534)
10 or/5-8 (707357)
11 9 and 10 (14948)
12 exp asthma/ (123411)
13 asthma.ti,ab,kf. (142300)
14 12 or 13 (168357)
15 11 and 14 (7883)
16 exp "Sensitivity and Specificity"/ (556477)
17 sensitivit*.ti,ab,kf. (768928)
18 specificit*.ti,ab,kf. (462323)
19 ((positive or negative) adj1 predictive adj1 value*).ti,ab,kf. (60689)
20 PPV.ti,ab,kf. (15804)
21 NPV.ti,ab,kf. (10292)
22 (signal adj2 noise adj2 ratio*).ti,ab,kf. (29088)
23 (roc adj1 (curve* or analy*)).ti,ab,kf. (39019)
24 ("receiver operating characteristics" adj2 (curve* or analy*)).ti,ab,kf. (5888)
25 ("receiver operating characteristic" adj2 (curve* or analy*)).ti,ab,kf. (49562)
26 ((false or true) adj2 (positi* or negati*).ti,ab,kf. (77630)
27 exp area under curve/ (38000)
28 (area adj under adj2 curve*).ti,ab,kf. (48043)
29 auc.ti,ab,kf. (61184)
30 likelihood functions/ (21271)
31 (likelihood adj2 (ratio* or function* or estimate*)).ti,ab,kf. (18701)
32 (diagnos* adj2 (performance* or power or accurac* or utilit* or value* or efficien* or effectiveness or concordance)).ti,ab,kf. (103206)
33 kappa.ti,ab,kf. (86420)
34 (discriminat* adj2 power).ti,ab,kf. (8870)
35 c statistic*.ti,ab,kf. (5716)
36 predictive value of tests/ (192292)
37 accura*.ti,ab,kf. (739028)
38 Reference Values/ (157260)
39 or/16-38 (2336300)
40 15 and 39 (1414)
41 forced expiratory volume/ (24627)
42 (FEV1 or FEV 1 or FVC or fevt or fef or FEV*).ti,ab,kf. (203983)
43 (flow volume adj2 (loop* or curve* or graph*).ti,ab,kf. (2142)
44 (forced expiratory volume* adj6 ("1" or one*).ti,ab,kf. (15827)
((force* or time*) adj vital capacit*).ti,ab,kf. (10381)
Spirometry/ (20493)
spiromet*.ti,ab,kf. (20706)
bronchspiromet*.ti,ab,kf. (337)
tiffeneau.ti,ab,kf. (137)
(specific adj2 airway* adj2 conduct*).ti,ab,kf. (693)
sGaw.ti,ab,kf. (544)
or/41-51 (241227)
limit 53 to (english language and humans and "all adult (19 plus years)") (581)

--------------------------

Scopus

((((TITLE-ABS-KEY(mannitol OR histamine OR metacholine)) AND (TITLE-ABS-KEY(bronchial W/2 (hyperreactivity OR hyperresponsiv* OR "provocation test" OR challenge))) AND (TITLE-ABS-KEY(asthma))) AND (((TITLE-ABS-KEY((fev1 OR "fev1" OR fvc OR fevt OR fef OR fev)) OR (TITLE-ABS-KEY("forced expiratory volume")) OR (TITLE-ABS-KEY("flow volume" W/2 (loop OR curve OR graph*)))) OR (TITLE-ABS-KEY(((force OR time) W/2 "vital capacity"))) OR (TITLE-ABS-KEY(spirometry)) OR (TITLE-ABS-KEY(bronchspirometry)) OR (TITLE-ABS-KEY(tiffeneau)) OR (TITLE-ABS-KEY((specific adj2 airway W/2 conductance)))) OR (TITLE-ABS-KEY(sgaw))) AND (((TITLE-ABS-KEY(sensitivity OR specificity)) OR (TITLE-ABS-KEY((positive OR negative) W/1 predictive W/1 value)) OR (TITLE-ABS-KEY(ppv OR npv)) OR (TITLE-ABS-KEY(signal W/2 noise W/2 ratio)) OR (TITLE-ABS-KEY(roc W/1 (curve OR analysis))) OR (TITLE-ABS-KEY("receiver operating characteristics" W/2 (curve OR analysis))) OR (TITLE-ABS-KEY(((false OR true) W/2 (positive OR negative))) OR (TITLE-ABS-KEY(area W/1 curve)) OR (TITLE-ABS-KEY(auc)) OR (TITLE-ABS-KEY(likelihood W/2 (ratio OR function OR estimate))) OR (TITLE-ABS-KEY(diagnosis W/2 (performance OR power OR accuracy* OR utility OR value OR efficiency* OR effectiveness OR concordance))) OR (TITLE-ABS-KEY(kappa)) OR (TITLE-ABS-KEY(discriminat* W/2 power)) OR (TITLE-ABS-KEY(accuracy)) OR (TITLE-ABS-KEY((predictive OR reference) W/1 value)))))) AND (LIMIT-TO (EXACTKEYWORD, "Human") OR LIMIT-TO (EXACTKEYWORD, "Adult")) AND (LIMIT-TO (LANGUAGE, "English")))
2/ SELECTION DATABASE

References found on Medline : 581
References found on Scopus : 282
Total references included in Excel database (after duplicates removal) : 734
1/ SEARCH STRATEGY

Medline
Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to July 15, 2019>

Search Strategy:
-------------------------------------------
1  exp Mannitol/ (12378)
2  exp histamine/ (36929)
3  methacholine chloride/ (5268)
4  (mannitol* or histamine* or methacholine*).ti,ab,kf. (86067)
5  Bronchial Provocation Tests/ (8564)
6  (inhalation or provocation or provoke* or challenge*).ti,ab,kf. (692651)
7  (hyperresponsiv* or hyperreactiv*).ti,ab,kf. (17552)
8  Bronchial Hyperreactivity/ (7275)
9  or/1-4 (99534)
10 or/5-8 (707357)
11 9 and 10 (14948)
12 exp asthma/ (123411)
13 asthma.ti,ab,kf. (142300)
14 12 or 13 (168357)
15 11 or 14 (175422)
16 exp "Sensitivity and Specificity"/ (556477)
17 sensitivit*.ti,ab,kf. (768928)
18 specificit*.ti,ab,kf. (462323)
19 ((positive or negative) adj1 predictive adj1 value*).ti,ab,kf. (60689)
20 PPV.ti,ab,kf. (15804)
21 NPV.ti,ab,kf. (10292)
22 (signal adj2 noise adj2 ratio*).ti,ab,kf. (29088)
23 (roc adj1 (curve* or analy*)).ti,ab,kf. (39019)
24 ("receiver operating characteristics" adj2 (curve* or analy*)).ti,ab,kf. (5888)
25 ("receiver operating characteristic" adj2 (curve* or analy*)).ti,ab,kf. (49562)
26 ((false or true) adj2 (positive* or negative*).ti,ab,kf. (77630)
27 exp area under curve/ (38000)
28 (area adj under adj2 curve*).ti,ab,kf. (48043)
29 auc.ti,ab,kf. (61184)
30 likelihood functions/ (21271)
31 (likelihood adj2 (ratio* or function* or estimate*)).ti,ab,kf. (18701)
32 (diagnos* adj2 (performance* or power or accurac* or utilit* or value* or efficien* or effectiveness* or concordance*).ti,ab,kf. (103206)
33 kappa.ti,ab,kf. (86420)
34 (discriminat* adj2 power).ti,ab,kf. (8870)
35 c statistic*.ti,ab,kf. (5716)
36 predictive value of tests/ (192292)
37 accura*.ti,ab,kf. (739028)
38 Reference Values/ (157260)
39 or/16-38 (2336300)
40 15 and 39 (13779)
41 TLC.ti,ab,kf. (13863)
42 (lung adj2 capacit*).ti,ab,kf. (5010)
43 (residual adj2 volume).ti,ab,kf. (7163)
44 RV.ti,ab,kf. (17784)
45 exp Functional Residual Capacity/ (3361)
No limites included due to the restricted number of studies found with this strategy

**Scopus**

\[
(\text{TITLE-ABS-KEY (mannitol OR histamine OR metacholine)}) \text{ AND (TITLE-ABS-KEY (bronchial W/2 (hyperreactivity OR hyperresponsivity OR "provocation test" OR challenge)))}) \text{ OR (TITLE-ABS-KEY (asthma)) AND (TITLE-ABS-KEY (sensitivity OR specificity)) OR (TITLE-ABS-KEY ((positive OR negative) W/1 predictive W/1 value))} \text{ OR (TITLE-ABS-KEY (ppv OR npv)) OR (TITLE-ABS-KEY (signal W/2 noise W/2 ratio))} \text{ OR (TITLE-ABS-KEY (roc W/1 (curve OR analysis))) OR (TITLE-ABS-KEY ("receiver operating characteristics" W/2 (curve OR analysis)))} \text{ OR (TITLE-ABS-KEY ((false OR true) W/2 (positive OR negative)))} \text{ OR (TITLE-ABS-KEY (area W/1 curve)) OR (TITLE-ABS-KEY (auc)) OR (TITLE-ABS-KEY (likelihood W/2 (ratio OR function OR estimate)))} \text{ OR (TITLE-ABS-KEY (diagnosis W/2 (performance OR power OR accuracy OR utility OR value OR efficiency OR effectiveness OR concordance)))} \text{ OR (TITLE-ABS-KEY (kappa))} \text{ OR (TITLE-ABS-KEY (discriminant* W/2 power))} \text{ OR (TITLE-ABS-KEY (accuracy))} \text{ OR (TITLE-ABS-KEY ((predictive OR reference) W/1 value)))}) \text{ AND (TITLE-ABS-KEY (tlc)) OR (TITLE-ABS-KEY ((lung W/2 capacity))) OR (TITLE-ABS-KEY ((residual W/2 volume)))} \text{ OR (TITLE-ABS-KEY (rv))} \text{ OR (TITLE-ABS-KEY ("functional residual capacity")))} \text{ OR (TITLE-ABS-KEY (frc))} \text{ OR (TITLE-ABS-KEY ("rv/tlc"))} \text{ OR (TITLE-ABS-KEY ("residual volume/total lung capacity")))}
\]

No limites included due to the restricted number of studies found with this strategy

**2/ SELECTION DATABASE**

References found on Medline : 196
References found on scopus : 391
Total references included in Excel database (after duplicates removal) : 465
PICO 8
Database: Ovid MEDLINE(R) and Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Daily and Versions(R) <1946 to August 30, 2019>

Search Strategy:

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<td>1</td>
<td>PEFV.ti,ab,kf.</td>
<td>(54)</td>
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<td>((diurnal* or circadian or variation* or variability or fluctuat* or alter* or increas* or decreas* or chang*) adj3 (PEF or PEFR or PFR or peak expiratory flow* or peak flow*)).ti,ab,kf.</td>
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<td>peak expiratory flow rate/</td>
<td>(5591)</td>
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<td>exp circadian rhythm/</td>
<td>(69102)</td>
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<tr>
<td>5</td>
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<td>(263)</td>
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<td>6</td>
<td>1 or 2 or 5</td>
<td>(3127)</td>
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<td>exp Bronchodilator Agents/</td>
<td>(259855)</td>
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<td>8</td>
<td>bronchoreversibilit*.ti,ab,kf.</td>
<td>(10)</td>
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<tr>
<td>9</td>
<td>((bronchodilator* or bronchial dilat* or broncholytic*) adj3 (test* or revers* or respons* or respond* or agent* or effect*)).ti,ab,kf.</td>
<td>(4347)</td>
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<td>10</td>
<td>(BDR or BDT).ti,ab,kf.</td>
<td>(927)</td>
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<td>or/7-10</td>
<td>(262010)</td>
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<td>exp Mannitol/</td>
<td>(12412)</td>
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<td>13</td>
<td>exp histamine/</td>
<td>(36965)</td>
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<td>methacholine chloride/</td>
<td>(5270)</td>
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<td>(mannitol* or histamine* or methacholine*).ti,ab,kf.</td>
<td>(86235)</td>
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<td>16</td>
<td>Bronchial Provocation Tests/</td>
<td>(8572)</td>
</tr>
<tr>
<td>17</td>
<td>(inhalation or provocation or provoke* or challenge*).ti,ab,kf.</td>
<td>(700494)</td>
</tr>
<tr>
<td>18</td>
<td>(hyperresponsiv* or hyperreactiv*).ti,ab,kf.</td>
<td>(17590)</td>
</tr>
<tr>
<td>19</td>
<td>Bronchial Hyperreactivity/</td>
<td>(7292)</td>
</tr>
<tr>
<td>20</td>
<td>or/12-15</td>
<td>(99711)</td>
</tr>
<tr>
<td>21</td>
<td>or/16-19</td>
<td>(715227)</td>
</tr>
<tr>
<td>22</td>
<td>20 and 21</td>
<td>(14971)</td>
</tr>
<tr>
<td>23</td>
<td>Vital Capacity/</td>
<td>(15073)</td>
</tr>
<tr>
<td>24</td>
<td>((expiratory or inspiratory) adj2 (reserv* or volume* or capacit* or flow)).ti,ab,kf.</td>
<td>(31739)</td>
</tr>
<tr>
<td>25</td>
<td>Forced Expiratory Volume/</td>
<td>(24756)</td>
</tr>
<tr>
<td>26</td>
<td>(FEV1 or FEV 1 or FVC or fevt or fef or FEV*).ti,ab,kf.</td>
<td>(205156)</td>
</tr>
<tr>
<td>27</td>
<td>(flow volume adj2 (loop* or curve* or graph*)).ti,ab,kf.</td>
<td>(2146)</td>
</tr>
<tr>
<td>28</td>
<td>(forced expiratory volume* adj6 (&quot;1&quot; or one)).ti,ab,kf.</td>
<td>(15926)</td>
</tr>
<tr>
<td>29</td>
<td>((force* or time*) adj vital capacit*).ti,ab,kf.</td>
<td>(10497)</td>
</tr>
<tr>
<td>30</td>
<td>Spirometry/</td>
<td>(20577)</td>
</tr>
<tr>
<td>31</td>
<td>spirometr*.ti,ab,kf.</td>
<td>(20851)</td>
</tr>
<tr>
<td>32</td>
<td>bronchospirometr*.ti,ab,kf.</td>
<td>(337)</td>
</tr>
<tr>
<td>33</td>
<td>or/23-32</td>
<td>(253936)</td>
</tr>
<tr>
<td>34</td>
<td>respiratory function test/</td>
<td>(45154)</td>
</tr>
<tr>
<td>35</td>
<td>respiratory sounds/</td>
<td>(8622)</td>
</tr>
<tr>
<td>36</td>
<td>cough/</td>
<td>(15153)</td>
</tr>
<tr>
<td>37</td>
<td>dyspnea/</td>
<td>(20120)</td>
</tr>
<tr>
<td>38</td>
<td>(wheez* or rhonchi or cough* or breathless* or dyspnea).ti,ab,kf.</td>
<td>(90144)</td>
</tr>
<tr>
<td>39</td>
<td>(airway* adj1 (inflammation or obstructi*)).ti,ab,kf.</td>
<td>(33642)</td>
</tr>
<tr>
<td>40</td>
<td>or/34-39</td>
<td>(175082)</td>
</tr>
<tr>
<td>41</td>
<td>Asthma/</td>
<td>(121631)</td>
</tr>
<tr>
<td>42</td>
<td>asthma*.ti,ab,kf.</td>
<td>(153049)</td>
</tr>
<tr>
<td>43</td>
<td>41 or 42</td>
<td>(171626)</td>
</tr>
<tr>
<td>44</td>
<td>6 or 11 or 22 or 33 or 40 or 43</td>
<td>(750437)</td>
</tr>
<tr>
<td>45</td>
<td>exp &quot;Sensitivity and Specificity&quot;/</td>
<td>(559821)</td>
</tr>
<tr>
<td>46</td>
<td>sensitiv*.ti,ab,kf.</td>
<td>(774877)</td>
</tr>
<tr>
<td>47</td>
<td>specificit*.ti,ab,kf.</td>
<td>(465513)</td>
</tr>
<tr>
<td>48</td>
<td>((positive or negative) adj1 predictive adj1 value*).ti,ab,kf.</td>
<td>(61221)</td>
</tr>
<tr>
<td>49</td>
<td>PPV.ti,ab,kf.</td>
<td>(16012)</td>
</tr>
</tbody>
</table>
NPV.ti,ab,kf. (10446)
(signal adj2 noise adj2 ratio*).ti,ab,kf. (29344)
(roc adj1 (curve* or analys*)).ti,ab,kf. (39709)
("receiver operating characteristics" adj2 (curve* or analys*)).ti,ab,kf. (5992)
("receiver operating characteristic" adj2 (curve* or analys*)).ti,ab,kf. (50473)
((false or true) adj2 (positi* or negati*)).ti,ab,kf. (78126)
exp area under curve/ (38250)
(area adj under adj2 curve*).ti,ab,kf. (48881)
auc.ti,ab,kf. (62284)
likelihood functions/ (21349)
(likelihood adj2 (ratio* or function* or estimate*)).ti,ab,kf. (18856)
(diagnos* adj2 (performance* or power or accurac* or utilit* or value* or efficien* or
effectiveness or concordance)).ti,ab,kf. (104391)
kappa.ti,ab,kf. (87126)
(discriminat* adj2 power).ti,ab,kf. (8948)
c statistic*.ti,ab,kf. (5827)
predictive value of tests/ (193629)
accura*.ti,ab,kf. (746339)
Reference Values/ (157562)
or/45 (2353446)
(test adj2 combination).ti,ab,kf. (1182)
work-up.ti,ab,kf. (21562)
69 or 70 (22738)
44 and 68 and 71 (200)
Search Strategy
Diagnosis of asthma in adults: patient-centred literature review

Patient perspectives in the literature

Methods

Search strategy
The PubMed database was searched from inception to 1 February 2020. The following terms were used:

(((asthma [Title/Abstract] AND diagnosis[Title/Abstract]) OR "patient preference"[MeSH Terms] OR ("patient"[All Fields] AND "preference"[All Fields]) OR "patient preference"[All Fields])) AND "type of tests"[All Fields]

List of Tests:

- Peak flow
- Spirometry - FEV1 / FVC
- Challenge testing
  - Mannitol challenge
  - Methacholine challenge
  - Histamine
  - Exercise
- Blood eosinophils
- FeNO
- RAST test (radioallergosorbent test)
- SGaw (specific airway conductance (sGaw))

Preliminary searches to test the search strategy indicated that there was a lack of published literature on patient experiences. The search team therefore decided to include grey literature within the review. Grey literature searches (online discussion forums, blogs, news articles, social media, patient organisation websites) were conducted to identify insights into patient experiences of the diagnostic process, and
places where patients discuss their experience. Specific search terms included asthma diagnosis, best asthma test, problems getting asthma diagnosis, is it asthma?, and each of the asthma diagnostic tests listed above. Social media sites revealed several online communities related to asthma and were included in the review.

Inclusion criteria

- **Patient characteristics:** adults with suspected asthma or going through asthma diagnostic testing.
- **Phenomenon of interest:** patient experiences of asthma diagnosis and the tests used to diagnose asthma.
- **Designs:** qualitative studies including focus groups, interviews, and quantitative studies with a qualitative element including surveys and randomised controlled trials (RCTs) published in English were eligible for inclusion.
- **Evaluation:** views, attitudes, beliefs, experiences, preferences.
- **Research type:** qualitative and mixed-methods.

Exclusion criteria

The following were excluded: systematic reviews and meta-analyses, narrative reviews, discussion papers, editorials, commentaries, case studies, animal studies, conference abstracts, studies not available in full form, unpublished material, non-asthma studies e.g. chronic obstructive pulmonary disease.

Results

The systematic literature search produced 371 papers. Screening was completed by one reviewer and checked by a second reviewer. After screening titles and abstracts, 33 papers were deemed relevant and included in the full text review. 15 papers met the inclusion criteria and were included in the review. 1 additional paper was identified and included from searching reference lists and 1 relevant paper was in press after the initial search.
No qualitative studies specifically explore patients’ experiences of diagnostic tests for asthma. Several publications focused on the sensitivity and specificity of certain tests were included where patient experience was also noted. The 2017 NICE Guidelines which included a literature review and patient perspectives via 3 patient representatives on the guideline committee were deemed relevant and included [NICE, 2017]. One qualitative study examining patients’ overall experience of the care pathway was included, however the main focus was on the management of asthma post-diagnosis [Hannane, *NPJ Prim Care Respir Med*, 2019]. Asthma patient interviews conducted by the Health Experiences Research Group at Oxford University using qualitative research methods were included in the review [Healthtalk.org, 2017].