
Atrial Fibrillation Diagnosis of AF Search Strategy A

This literature search strategy was used for the following reviews:

- **Clinical and cost-effectiveness of tools for detecting atrial fibrillation in people with cardiovascular risk factors for AF and/or symptoms suggestive of AF**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.1 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 1: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Diagnostic tests studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Diagnostic tests studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None

Medline (Ovid) search terms

1.	exp atrial fibrillation/
2.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
3.	AF.ti,ab.
4.	1 or 2 or 3
5.	letter/
6.	editorial/
7.	news/
8.	exp historical article/
9.	Anecdotes as Topic/
10.	comment/
11.	case report/
12.	(letter or comment*).ti.
13.	or/5-12

14.	randomized controlled trial/ or random*.ti,ab.
15.	13 not 14
16.	animals/ not humans/
17.	exp Animals, Laboratory/
18.	exp Animal Experimentation/
19.	exp Models, Animal/
20.	exp Rodentia/
21.	(rat or rats or mouse or mice).ti.
22.	or/15-21
23.	4 not 22
24.	limit 23 to English language
25.	exp "sensitivity and specificity"/
26.	(sensitivity or specificity).ti,ab.
27.	((pre test or pretest or post test) adj probability).ti,ab.
28.	(predictive value* or PPV or NPV).ti,ab.
29.	likelihood ratio*.ti,ab.
30.	likelihood function/
31.	((area under adj4 curve) or AUC).ti,ab.
32.	(receive* operat* characteristic* or receive* operat* curve* or ROC curve*).ti,ab.
33.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
34.	gold standard.ab.
35.	or/25-34
36.	randomized controlled trial.pt.
37.	controlled clinical trial.pt.
38.	randomi#ed.ab.
39.	placebo.ab.
40.	randomly.ab.
41.	clinical trials as topic.sh.
42.	trial.ti.
43.	or/36-42
44.	Meta-Analysis/
45.	exp Meta-Analysis as Topic/
46.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
47.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
48.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
49.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
50.	(search* adj4 literature).ab.
51.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
52.	cochrane.jw.
53.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
54.	or/44-53
55.	Epidemiologic studies/

56.	Observational study/
57.	exp Cohort studies/
58.	(cohort adj (study or studies or analys* or data)).ti,ab.
59.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
60.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
61.	Controlled Before-After Studies/
62.	Historically Controlled Study/
63.	Interrupted Time Series Analysis/
64.	(before adj2 after adj2 (study or studies or data)).ti,ab.
65.	exp case control study/
66.	case control*.ti,ab.
67.	Cross-sectional studies/
68.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
69.	or/55-68
70.	24 and (35 or 43 or 54 or 69)
71.	((portable or ambulatory or monitor* or lead* or handheld or hand held or daily or long-term or short-term or strap* or device*) adj3 (ECG* or EKG* or electrocardio)).ti,ab.
72.	((ECG* or EKG* or electrocardio*) adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)).ti,ab.
73.	(iECG* or Holter*).ti,ab.
74.	((ambulatory or event) adj monitor*).ti,ab.
75.	*electrocardiography/ or electrocardiography, ambulatory/
76.	(ILR* or loop record*).ti,ab.
77.	((heart or cardiac) adj monitor*).ti,ab.
78.	(pulse adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure* or palpation*)).ti,ab.
79.	(pulse oximetr* adj device*).ti,ab.
80.	oximetry/
81.	Pulse/
82.	((blood pressure or BP) adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)).ti,ab.
83.	Blood Pressure Monitors/ or Blood Pressure Monitoring, Ambulatory/
84.	(AliveCor or MyDiagnostic*).ti,ab.
85.	(Microlife or WatchBP or "watch BP").ti,ab.
86.	(Heartscan or Zenicor or AliveECG or Kardia*).ti,ab.
87.	(photoplethysmograph* or PPG).ti,ab.
88.	(smartwatch* or smart watch* or Applewatch* or Apple watch* or wrist watch* or wristwatch* or fitness band* or fitness tracker* or smartphone* or smart phone* or mobile phone*).ti,ab.
89.	(wearable adj2 (technology or device* or sensor* or ECG or EKG or electrocardio)).ti,ab.
90.	(mhealth or m-health or "mobile health").ti,ab.
91.	telemedicine/
92.	point of care.ti,ab.

93.	((targeted or oppotunistic) adj2 (detect* or screen*)).ti,ab.
94.	or/71-93
95.	70 and 94

Embase (Ovid) search terms

1.	exp atrial fibrillation/
2.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
3.	AF.ti,ab.
4.	1 or 2 or 3
5.	letter.pt. or letter/
6.	note.pt.
7.	editorial.pt.
8.	case report/ or case study/
9.	(letter or comment*).ti.
10.	or/5-9
11.	randomized controlled trial/ or random*.ti,ab.
12.	10 not 11
13.	animal/ not human/
14.	nonhuman/
15.	exp Animal Experiment/
16.	exp Experimental Animal/
17.	animal model/
18.	exp Rodent/
19.	(rat or rats or mouse or mice).ti.
20.	or/12-19
21.	4 not 20
22.	limit 21 to English language
23.	exp "sensitivity and specificity"/
24.	(sensitivity or specificity).ti,ab.
25.	((pre test or pretest or post test) adj probability).ti,ab.
26.	(predictive value* or PPV or NPV).ti,ab.
27.	likelihood ratio*.ti,ab.
28.	((area under adj4 curve) or AUC).ti,ab.
29.	(receive* operat* characteristic* or receive* operat* curve* or ROC curve*).ti,ab.
30.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
31.	diagnostic accuracy/
32.	diagnostic test accuracy study/
33.	gold standard.ab.
34.	or/23-33
35.	random*.ti,ab.
36.	factorial*.ti,ab.
37.	(crossover* or cross over*).ti,ab.
38.	((doubl* or singl*) adj blind*).ti,ab.
39.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
40.	crossover procedure/

41.	single blind procedure/
42.	randomized controlled trial/
43.	double blind procedure/
44.	or/35-43
45.	systematic review/
46.	Meta-Analysis/
47.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
48.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
49.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
50.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
51.	(search* adj4 literature).ab.
52.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
53.	cochrane.jw.
54.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
55.	or/45-54
56.	Clinical study/
57.	Observational study/
58.	family study/
59.	longitudinal study/
60.	retrospective study/
61.	prospective study/
62.	cohort analysis/
63.	follow-up/
64.	cohort*.ti,ab.
65.	63 and 64
66.	(cohort adj (study or studies or analys* or data)).ti,ab.
67.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
68.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
69.	(before adj2 after adj2 (study or studies or data)).ti,ab.
70.	exp case control study/
71.	case control*.ti,ab.
72.	cross-sectional study/
73.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
74.	or/56-73
75.	34 or 44 or 55 or 74
76.	22 and (34 or 44 or 55 or 74)
77.	((portable or ambulatory or monitor* or lead* or handheld or hand held or daily or long-term or short-term or strap* or device*) adj3 (ECG* or EKG* or electrocardio*)).ti,ab.
78.	((ECG* or EKG* or electrocardio*) adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)).ti,ab.
79.	(iECG* or Holter*).ti,ab.

80.	((ambulatory or event) adj monitor*).ti,ab.
81.	*electrocardiography/
82.	*ambulatory electrocardiography/
83.	(ILR* or loop record*).ti,ab.
84.	((heart or cardiac) adj monitor*).ti,ab.
85.	(pulse adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure* or palpation*)).ti,ab.
86.	(pulse oximetr* adj device*).ti,ab.
87.	*oximetry/
88.	*pulse rate/
89.	((blood pressure or BP) adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)).ti,ab.
90.	*blood pressure monitor/
91.	(AliveCor or MyDiagnostic*).ti,ab.
92.	(Microlife or WatchBP or "watch BP").ti,ab.
93.	(Heartscan or Zenicor or AliveECG or Kardia*).ti,ab.
94.	(photoplethysmograph* or PPG).ti,ab.
95.	(smartwatch* or smart watch* or Applewatch* or Apple watch* or wrist watch* or wristwatch* or fitness band* or fitness tracker* or smartphone* or smart phone* or mobile phone*).ti,ab.
96.	(wearable adj2 (technology or device* or sensor* or ECG or EKG or electrocardio*)).ti,ab.
97.	(mhealth or m-health or "mobile health").ti,ab.
98.	*telemedicine/
99.	point of care.ti,ab.
100.	((targeted or oppotunistic) adj2 (detect* or screen*)).ti,ab.
101.	or/77-100
102.	76 and 101

Cochrane Library (Wiley) search terms

#1.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#2.	((atrial or atria or atrium or auricular) near/3 fibrillat*).ti,ab
#3.	AF:ti,ab
#4.	#1 or #2 or #3
#5.	((portable or ambulatory) or monitor* or lead* or handheld or hand held or daily or long-term or short-term or strap* or device*) near/3 (ECG* or EKG* or electrocardio*):ti,ab
#6.	((ECG* or EKG* or electrocardio*) near/2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*):ti,ab
#7.	(iECG* or Holter*):ti,ab
#8.	((ambulatory or event) next monitor*).ti,ab
#9.	MeSH descriptor: [Electrocardiography] this term only
#10.	MeSH descriptor: [Electrocardiography, Ambulatory] this term only
#11.	(ILR* or loop record*).ti,ab
#12.	((heart or cardiac) next monitor*).ti,ab
#13.	(pulse near/2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure* or palpation*):ti,ab
#14.	(pulse oximetr* next device*).ti,ab

#15.	MeSH descriptor: [Oximetry] this term only
#16.	MeSH descriptor: [Pulse] this term only
#17.	((blood pressure or BP) near/2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)):ti,ab
#18.	MeSH descriptor: [Blood Pressure Monitors] this term only
#19.	MeSH descriptor: [Blood Pressure Monitoring, Ambulatory] this term only
#20.	(AliveCor or MyDiagnostic*):ti,ab
#21.	(Microlife or WatchBP or "watch BP"):ti,ab
#22.	(Heartscan or Zenicor or AliveECG or Kardia*):ti,ab
#23.	(photoplethysmograph* or PPG):ti,ab
#24.	(smartwatch* or smart watch* or Applewatch* or Apple watch* or wrist watch* or wristwatch* or fitness band* or fitness tracker* or smartphone* or smart phone* or mobile phone*):ti,ab
#25.	(wearable near/2 (technology or device* or sensor* or ECG or EKG or electrocardio*)):ti,ab
#26.	(mhealth or m-health or "mobile health"):ti,ab
#27.	MeSH descriptor: [Telemedicine] this term only
#28.	point of care:ti,ab
#29.	((targeted or oppotunistic) near/2 (detect* or screen*)):ti,ab
#30.	(or #5-#29)
#31.	#4 and #30

A.2 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 2: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

1.	exp atrial fibrillation/
2.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
3.	AF.ti,ab.
4.	1 or 2 or 3
5.	letter/
6.	editorial/
7.	news/

8.	exp historical article/
9.	Anecdotes as Topic/
10.	comment/
11.	case report/
12.	(letter or comment*).ti.
13.	or/5-12
14.	randomized controlled trial/ or random*.ti,ab.
15.	13 not 14
16.	animals/ not humans/
17.	exp Animals, Laboratory/
18.	exp Animal Experimentation/
19.	exp Models, Animal/
20.	exp Rodentia/
21.	(rat or rats or mouse or mice).ti.
22.	or/15-21
23.	4 not 22
24.	limit 23 to English language
25.	economics/
26.	value of life/
27.	exp "costs and cost analysis"/
28.	exp Economics, Hospital/
29.	exp Economics, medical/
30.	Economics, nursing/
31.	economics, pharmaceutical/
32.	exp "Fees and Charges"/
33.	exp budgets/
34.	budget*.ti,ab.
35.	cost*.ti.
36.	(economic* or pharmaco?economic*).ti.
37.	(price* or pricing*).ti,ab.
38.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
39.	(financ* or fee or fees).ti,ab.
40.	(value adj2 (money or monetary)).ti,ab.
41.	or/25-40
42.	24 and 41

Embase (Ovid) search terms

1.	exp atrial fibrillation/
2.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
3.	AF.ti,ab.
4.	1 or 2 or 3
5.	letter.pt. or letter/
6.	note.pt.
7.	editorial.pt.

8.	case report/ or case study/
9.	(letter or comment*).ti.
10.	or/5-9
11.	randomized controlled trial/ or random*.ti,ab.
12.	10 not 11
13.	animal/ not human/
14.	nonhuman/
15.	exp Animal Experiment/
16.	exp Experimental Animal/
17.	animal model/
18.	exp Rodent/
19.	(rat or rats or mouse or mice).ti.
20.	or/12-19
21.	4 not 20
22.	limit 21 to English language
23.	health economics/
24.	exp economic evaluation/
25.	exp health care cost/
26.	exp fee/
27.	budget/
28.	funding/
29.	budget*.ti,ab.
30.	cost*.ti.
31.	(economic* or pharmaco?economic*).ti.
32.	(price* or pricing*).ti,ab.
33.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
34.	(financ* or fee or fees).ti,ab.
35.	(value adj2 (money or monetary)).ti,ab.
36.	or/23-35
37.	22 and 36

NHS EED and HTA (CRD) search terms

#1.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#2.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#3.	(AF)
#4.	(#1 or #2 or #3)

Atrial Fibrillation Accuracy of AF Detection Tests Search Strategy B

This literature search strategy was used for the following reviews:

- **What are the most accurate methods for detecting atrial fibrillation in people with cardiovascular risk factors for AF and/or symptoms suggestive of AF?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.3 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 3: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Diagnostic tests studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Diagnostic tests studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None

Medline (Ovid) search terms

96.	exp atrial fibrillation/
97.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
98.	AF.ti,ab.
99.	1 or 2 or 3
100.	letter/
101.	editorial/
102.	news/
103.	exp historical article/
104.	Anecdotes as Topic/
105.	comment/
106.	case report/
107.	(letter or comment*).ti.
108.	or/5-12

109.	randomized controlled trial/ or random*.ti,ab.
110.	13 not 14
111.	animals/ not humans/
112.	exp Animals, Laboratory/
113.	exp Animal Experimentation/
114.	exp Models, Animal/
115.	exp Rodentia/
116.	(rat or rats or mouse or mice).ti.
117.	or/15-21
118.	4 not 22
119.	limit 23 to English language
120.	exp "sensitivity and specificity"/
121.	(sensitivity or specificity).ti,ab.
122.	((pre test or pretest or post test) adj probability).ti,ab.
123.	(predictive value* or PPV or NPV).ti,ab.
124.	likelihood ratio*.ti,ab.
125.	likelihood function/
126.	((area under adj4 curve) or AUC).ti,ab.
127.	(receive* operat* characteristic* or receive* operat* curve* or ROC curve*).ti,ab.
128.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
129.	gold standard.ab.
130.	or/25-34
131.	randomized controlled trial.pt.
132.	controlled clinical trial.pt.
133.	randomi#ed.ab.
134.	placebo.ab.
135.	randomly.ab.
136.	clinical trials as topic.sh.
137.	trial.ti.
138.	or/36-42
139.	Meta-Analysis/
140.	exp Meta-Analysis as Topic/
141.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
142.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
143.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
144.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
145.	(search* adj4 literature).ab.
146.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
147.	cochrane.jw.
148.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
149.	or/44-53
150.	Epidemiologic studies/

151.	Observational study/
152.	exp Cohort studies/
153.	(cohort adj (study or studies or analys* or data)).ti,ab.
154.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
155.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
156.	Controlled Before-After Studies/
157.	Historically Controlled Study/
158.	Interrupted Time Series Analysis/
159.	(before adj2 after adj2 (study or studies or data)).ti,ab.
160.	exp case control study/
161.	case control*.ti,ab.
162.	Cross-sectional studies/
163.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
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165.	24 and (35 or 43 or 54 or 69)
166.	((portable or ambulatory or monitor* or lead* or handheld or hand held or daily or long-term or short-term or strap* or device*) adj3 (ECG* or EKG* or electrocardio)).ti,ab.
167.	((ECG* or EKG* or electrocardio*) adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)).ti,ab.
168.	(iECG* or Holter*).ti,ab.
169.	((ambulatory or event) adj monitor*).ti,ab.
170.	*electrocardiography/ or electrocardiography, ambulatory/
171.	(ILR* or loop record*).ti,ab.
172.	((heart or cardiac) adj monitor*).ti,ab.
173.	(pulse adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure* or palpation*)).ti,ab.
174.	(pulse oximetr* adj device*).ti,ab.
175.	oximetry/
176.	Pulse/
177.	((blood pressure or BP) adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)).ti,ab.
178.	Blood Pressure Monitors/ or Blood Pressure Monitoring, Ambulatory/
179.	(AliveCor or MyDiagnostic*).ti,ab.
180.	(Microlife or WatchBP or "watch BP").ti,ab.
181.	(Heartscan or Zenicor or AliveECG or Kardia*).ti,ab.
182.	(photoplethysmograph* or PPG).ti,ab.
183.	(smartwatch* or smart watch* or Applewatch* or Apple watch* or wrist watch* or wristwatch* or fitness band* or fitness tracker* or smartphone* or smart phone* or mobile phone*).ti,ab.
184.	(wearable adj2 (technology or device* or sensor* or ECG or EKG or electrocardio)).ti,ab.
185.	(mhealth or m-health or "mobile health").ti,ab.
186.	telemedicine/
187.	point of care.ti,ab.

188.	((targeted or oppotunistic) adj2 (detect* or screen*)).ti,ab.
189.	or/71-93
190.	70 and 94

Embase (Ovid) search terms

103.	exp atrial fibrillation/
104.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
105.	AF.ti,ab.
106.	1 or 2 or 3
107.	letter.pt. or letter/
108.	note.pt.
109.	editorial.pt.
110.	case report/ or case study/
111.	(letter or comment*).ti.
112.	or/5-9
113.	randomized controlled trial/ or random*.ti,ab.
114.	10 not 11
115.	animal/ not human/
116.	nonhuman/
117.	exp Animal Experiment/
118.	exp Experimental Animal/
119.	animal model/
120.	exp Rodent/
121.	(rat or rats or mouse or mice).ti.
122.	or/12-19
123.	4 not 20
124.	limit 21 to English language
125.	exp "sensitivity and specificity"/
126.	(sensitivity or specificity).ti,ab.
127.	((pre test or pretest or post test) adj probability).ti,ab.
128.	(predictive value* or PPV or NPV).ti,ab.
129.	likelihood ratio*.ti,ab.
130.	((area under adj4 curve) or AUC).ti,ab.
131.	(receive* operat* characteristic* or receive* operat* curve* or ROC curve*).ti,ab.
132.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
133.	diagnostic accuracy/
134.	diagnostic test accuracy study/
135.	gold standard.ab.
136.	or/23-33
137.	random*.ti,ab.
138.	factorial*.ti,ab.
139.	(crossover* or cross over*).ti,ab.
140.	((doubl* or singl*) adj blind*).ti,ab.
141.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
142.	crossover procedure/

143.	single blind procedure/
144.	randomized controlled trial/
145.	double blind procedure/
146.	or/35-43
147.	systematic review/
148.	Meta-Analysis/
149.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
150.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
151.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
152.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
153.	(search* adj4 literature).ab.
154.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
155.	cochrane.jw.
156.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
157.	or/45-54
158.	Clinical study/
159.	Observational study/
160.	family study/
161.	longitudinal study/
162.	retrospective study/
163.	prospective study/
164.	cohort analysis/
165.	follow-up/
166.	cohort*.ti,ab.
167.	63 and 64
168.	(cohort adj (study or studies or analys* or data)).ti,ab.
169.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
170.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
171.	(before adj2 after adj2 (study or studies or data)).ti,ab.
172.	exp case control study/
173.	case control*.ti,ab.
174.	cross-sectional study/
175.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
176.	or/56-73
177.	34 or 44 or 55 or 74
178.	22 and (34 or 44 or 55 or 74)
179.	((portable or ambulatory or monitor* or lead* or handheld or hand held or daily or long-term or short-term or strap* or device*) adj3 (ECG* or EKG* or electrocardio*)).ti,ab.
180.	((ECG* or EKG* or electrocardio*) adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)).ti,ab.
181.	(iECG* or Holter*).ti,ab.

182.	((ambulatory or event) adj monitor*).ti,ab.
183.	*electrocardiography/
184.	*ambulatory electrocardiography/
185.	(ILR* or loop record*).ti,ab.
186.	((heart or cardiac) adj monitor*).ti,ab.
187.	(pulse adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure* or palpation*)).ti,ab.
188.	(pulse oximetr* adj device*).ti,ab.
189.	*oximetry/
190.	*pulse rate/
191.	((blood pressure or BP) adj2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)).ti,ab.
192.	*blood pressure monitor/
193.	(AliveCor or MyDiagnostic*).ti,ab.
194.	(Microlife or WatchBP or "watch BP").ti,ab.
195.	(Heartscan or Zenicor or AliveECG or Kardia*).ti,ab.
196.	(photoplethysmograph* or PPG).ti,ab.
197.	(smartwatch* or smart watch* or Applewatch* or Apple watch* or wrist watch* or wristwatch* or fitness band* or fitness tracker* or smartphone* or smart phone* or mobile phone*).ti,ab.
198.	(wearable adj2 (technology or device* or sensor* or ECG or EKG or electrocardio*)).ti,ab.
199.	(mhealth or m-health or "mobile health").ti,ab.
200.	*telemedicine/
201.	point of care.ti,ab.
202.	((targeted or oppotunistic) adj2 (detect* or screen*)).ti,ab.
203.	or/77-100
204.	76 and 101

Cochrane Library (Wiley) search terms

#32.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#33.	((atrial or atria or atrium or auricular) near/3 fibrillat*).ti,ab
#34.	AF:ti,ab
#35.	#1 or #2 or #3
#36.	((portable or ambulatory) or monitor* or lead* or handheld or hand held or daily or long-term or short-term or strap* or device*) near/3 (ECG* or EKG* or electrocardio*):ti,ab
#37.	((ECG* or EKG* or electrocardio*) near/2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*):ti,ab
#38.	(iECG* or Holter*):ti,ab
#39.	((ambulatory or event) next monitor*).ti,ab
#40.	MeSH descriptor: [Electrocardiography] this term only
#41.	MeSH descriptor: [Electrocardiography, Ambulatory] this term only
#42.	(ILR* or loop record*).ti,ab
#43.	((heart or cardiac) next monitor*).ti,ab
#44.	(pulse near/2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure* or palpation*):ti,ab
#45.	(pulse oximetr* next device*).ti,ab

#46.	MeSH descriptor: [Oximetry] this term only
#47.	MeSH descriptor: [Pulse] this term only
#48.	((blood pressure or BP) near/2 (assess* or check* or monitor* or detect* or screen* or diagnos* or measure*)):ti,ab
#49.	MeSH descriptor: [Blood Pressure Monitors] this term only
#50.	MeSH descriptor: [Blood Pressure Monitoring, Ambulatory] this term only
#51.	(AliveCor or MyDiagnostic*):ti,ab
#52.	(Microlife or WatchBP or "watch BP"):ti,ab
#53.	(Heartscan or Zenicor or AliveECG or Kardia*):ti,ab
#54.	(photoplethysmograph* or PPG):ti,ab
#55.	(smartwatch* or smart watch* or Applewatch* or Apple watch* or wrist watch* or wristwatch* or fitness band* or fitness tracker* or smartphone* or smart phone* or mobile phone*):ti,ab
#56.	(wearable near/2 (technology or device* or sensor* or ECG or EKG or electrocardio*)):ti,ab
#57.	(mhealth or m-health or "mobile health"):ti,ab
#58.	MeSH descriptor: [Telemedicine] this term only
#59.	point of care:ti,ab
#60.	((targeted or oppotunistic) near/2 (detect* or screen*)):ti,ab
#61.	(or #5-#29)
#62.	#4 and #30

A.4 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 4: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

43.	exp atrial fibrillation/
44.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
45.	AF.ti,ab.
46.	1 or 2 or 3
47.	letter/
48.	editorial/
49.	news/

50.	exp historical article/
51.	Anecdotes as Topic/
52.	comment/
53.	case report/
54.	(letter or comment*).ti.
55.	or/5-12
56.	randomized controlled trial/ or random*.ti,ab.
57.	13 not 14
58.	animals/ not humans/
59.	exp Animals, Laboratory/
60.	exp Animal Experimentation/
61.	exp Models, Animal/
62.	exp Rodentia/
63.	(rat or rats or mouse or mice).ti.
64.	or/15-21
65.	4 not 22
66.	limit 23 to English language
67.	economics/
68.	value of life/
69.	exp "costs and cost analysis"/
70.	exp Economics, Hospital/
71.	exp Economics, medical/
72.	Economics, nursing/
73.	economics, pharmaceutical/
74.	exp "Fees and Charges"/
75.	exp budgets/
76.	budget*.ti,ab.
77.	cost*.ti.
78.	(economic* or pharmaco?economic*).ti.
79.	(price* or pricing*).ti,ab.
80.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
81.	(financ* or fee or fees).ti,ab.
82.	(value adj2 (money or monetary)).ti,ab.
83.	or/25-40
84.	24 and 41

Embase (Ovid) search terms

38.	exp atrial fibrillation/
39.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
40.	AF.ti,ab.
41.	1 or 2 or 3
42.	letter.pt. or letter/
43.	note.pt.
44.	editorial.pt.

45.	case report/ or case study/
46.	(letter or comment*).ti.
47.	or/5-9
48.	randomized controlled trial/ or random*.ti,ab.
49.	10 not 11
50.	animal/ not human/
51.	nonhuman/
52.	exp Animal Experiment/
53.	exp Experimental Animal/
54.	animal model/
55.	exp Rodent/
56.	(rat or rats or mouse or mice).ti.
57.	or/12-19
58.	4 not 20
59.	limit 21 to English language
60.	health economics/
61.	exp economic evaluation/
62.	exp health care cost/
63.	exp fee/
64.	budget/
65.	funding/
66.	budget*.ti,ab.
67.	cost*.ti.
68.	(economic* or pharmaco?economic*).ti.
69.	(price* or pricing*).ti,ab.
70.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
71.	(financ* or fee or fees).ti,ab.
72.	(value adj2 (money or monetary)).ti,ab.
73.	or/23-35
74.	22 and 36

NHS EED and HTA (CRD) search terms

#5.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#6.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#7.	(AF)
#8.	(#1 or #2 or #3)

Atrial Fibrillation Risk Stratification Tool for Predicting Stroke Search Strategy C

This literature search strategy was used for the following reviews:

- **What is the most clinically and cost-effective risk stratification tool for predicting stroke or thromboembolic events in people with atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.5 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Searches were constructed using the following approaches:

- Population AND Prognostic/risk factor terms AND Study filter(s)

Table 5: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Diagnostic tests studies Risk/Prognostic studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Diagnostic tests studies Risk/Prognostic studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None

Medline (Ovid) search terms

191.	exp atrial fibrillation/
192.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
193.	AF.ti,ab.
194.	1 or 2 or 3
195.	letter/
196.	editorial/
197.	news/
198.	exp historical article/
199.	Anecdotes as Topic/
200.	comment/

201.	case report/
202.	(letter or comment*).ti.
203.	or/5-12
204.	randomized controlled trial/ or random*.ti,ab.
205.	13 not 14
206.	animals/ not humans/
207.	exp Animals, Laboratory/
208.	exp Animal Experimentation/
209.	exp Models, Animal/
210.	exp Rodentia/
211.	(rat or rats or mouse or mice).ti.
212.	or/15-21
213.	4 not 22
214.	limit 23 to English language
215.	(stroke or strokes).ti,ab.
216.	((cerebro* or cerebral*) adj2 (accident* or apoplexy)).ti,ab.
217.	(CVA or poststroke or poststrokes).ti,ab.
218.	exp Intracranial Hemorrhages/
219.	(brain adj2 (attack* or hemorrhag* or haemorrhag* or bleed* or infarct*)).ti,ab.
220.	((intracerebral or intracranial or cerebral* or cerebro* or cerebrum or cerebellum or subarachnoid* or choroidal or basal ganglia or subdural) adj3 (hemorrhag* or haemorrhag* or bleed*)).ti,ab.
221.	exp Brain infarction/
222.	*Thromboembolism/
223.	exp "Intracranial Embolism and Thrombosis"/
224.	exp Carotid Artery Thrombosis/
225.	((brain or brainstem or cerebr* or cerebell* or vertebrobasil* or verte brobasil* or hemisphere* or intracran* or intracerebral or infratentorial or supratentorial or mca* or anterior circulation or carotid or transient or lacunar) adj3 (infarct* or thrombo* or emboli* or occlus* or hypoxi*)).ti,ab.
226.	((thrombo* or emboli*) adj2 event*).ti,ab.
227.	troponin*.ti,ab.
228.	or/25-37
229.	38 not 22
230.	limit 39 to English language
231.	exp risk/
232.	(risk adj3 (assess* or scheme* or rating* or tool* or rule* or index* or indices or score* or scoring or scale* or model* or system* or algorithm* or stratif* or criteria or calculat*)).ti,ab.
233.	Decision Support Systems, Clinical/ or Decision Support Techniques/
234.	((decision or assess* or screen*) adj3 (tool* or rule* or instrument* or index* or test* or technique* or analy* or system* or model*)).ti,ab.
235.	(logistic* adj model*).mp.
236.	exp Prognosis/
237.	exp "Predictive Value of Tests"/
238.	(prognos* or predict*).ti,ab.
239.	or/41-48

240.	40 and 49
241.	chads*.ti,ab.
242.	cha2ds2*.ti,ab.
243.	"cha(2)ds(2)-vasc".ti,ab.
244.	("Anticoagulation and Risk Factors in Atrial Fibrillation" or ATRIA).ti,ab.
245.	Q stroke.ti,ab.
246.	ABC Stroke.ti,ab.
247.	or/50-56
248.	24 and 57
249.	randomized controlled trial.pt.
250.	controlled clinical trial.pt.
251.	randomi#ed.ab.
252.	placebo.ab.
253.	randomly.ab.
254.	clinical trials as topic.sh.
255.	trial.ti.
256.	or/59-65
257.	Meta-Analysis/
258.	Meta-Analysis as Topic/
259.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
260.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
261.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
262.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
263.	(search* adj4 literature).ab.
264.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
265.	cochrane.jw.
266.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
267.	or/67-76
268.	exp "sensitivity and specificity"/
269.	(sensitivity or specificity).ti,ab.
270.	((pre test or pretest or post test) adj probability).ti,ab.
271.	(predictive value* or PPV or NPV).ti,ab.
272.	likelihood ratio*.ti,ab.
273.	likelihood function/
274.	((area under adj4 curve) or AUC).ti,ab.
275.	(receive* operat* characteristic* or receive* operat* curve* or ROC curve*).ti,ab.
276.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
277.	gold standard.ab.
278.	or/78-87
279.	Epidemiologic studies/
280.	Observational study/
281.	exp Cohort studies/

282.	(cohort adj (study or studies or analys* or data)).ti,ab.
283.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
284.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
285.	Controlled Before-After Studies/
286.	Historically Controlled Study/
287.	Interrupted Time Series Analysis/
288.	(before adj2 after adj2 (study or studies or data)).ti,ab.
289.	exp case control study/
290.	case control*.ti,ab.
291.	Cross-sectional studies/
292.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
293.	or/89-102
294.	58 and (66 or 77 or 88 or 103)

Embase (Ovid) search terms

205.	exp Atrial Fibrillation/
206.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
207.	AF.ti,ab.
208.	1 or 2 or 3
209.	letter.pt. or letter/
210.	note.pt.
211.	editorial.pt.
212.	case report/ or case study/
213.	(letter or comment*).ti.
214.	or/5-9
215.	randomized controlled trial/ or random*.ti,ab.
216.	10 not 11
217.	animal/ not human/
218.	nonhuman/
219.	exp Animal Experiment/
220.	exp Experimental Animal/
221.	animal model/
222.	exp Rodent/
223.	(rat or rats or mouse or mice).ti.
224.	or/12-19
225.	4 not 20
226.	limit 21 to English language
227.	(stroke or strokes).ti,ab.
228.	((cerebro* or cerebral*) adj2 (accident* or apoplexy)).ti,ab.
229.	(CVA or poststroke or poststrokes).ti,ab.
230.	*brain hemorrhage/ or *brain ventricle hemorrhage/ or *cerebellum hemorrhage/ or *subarachnoid hemorrhage/
231.	(brain adj2 (attack* or hemorrhag* or haemorrhag* or bleed* or infarct*)).ti,ab.
232.	((intracerebral or intracranial or cerebral* or cerebro* or cerebrum or cerebellum or

	subarachnoid* or choroidal or basal ganglia or subdural) adj3 (hemorrhag* or haemorrhag* or bleed*).ti,ab.
233.	*brain infarction/ or *brain infarction size/ or *brain stem infarction/ or *cerebellum infarction/
234.	*thromboembolism/
235.	*brain embolism/
236.	*Carotid Artery Thrombosis/
237.	((brain or brainstem or cerebr* or cerebell* or vertebrobasil* or verte brobasil* or hemisphere* or intracran* or intracerebral or infratentorial or supratentorial or mca* or anterior circulation or carotid or transient or lacunar) adj3 (infarct* or thrombo* or emboli* or occlus* or hypoxi*).ti,ab.
238.	((thrombo* or emboli*) adj2 event*).ti,ab.
239.	troponin*.ti,ab.
240.	or/23-35
241.	36 not 20
242.	limit 37 to English language
243.	risk/ or risk factor/ or risk assessment/
244.	(risk adj3 (assess* or scheme* or rating* or tool* or rule* or index* or indices or score* or scoring or scale* or model* or system* or algorithm* or stratif* or criteria or calculat*).ti,ab.
245.	decision support system/
246.	((decision or assess* or screen*) adj3 (tool* or rule* or instrument* or index* or test* or technique* or analy* or system* or model*).ti,ab.
247.	(logistic* adj model*).mp.
248.	prognosis/
249.	predictive value/
250.	(prognos* or predict*).ti,ab.
251.	or/39-46
252.	38 and 47
253.	chads*.ti,ab.
254.	cha2ds2*.ti,ab.
255.	"cha(2)ds(2)-vasc".ti,ab.
256.	("Anticoagulation and Risk Factors in Atrial Fibrillation" or ATRIA).ti,ab.
257.	Q stroke.ti,ab.
258.	ABC Stroke.ti,ab.
259.	or/48-54
260.	22 and 55
261.	random*.ti,ab.
262.	factorial*.ti,ab.
263.	(crossover* or cross over*).ti,ab.
264.	((doubl* or singl*) adj blind*).ti,ab.
265.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
266.	crossover procedure/
267.	single blind procedure/
268.	randomized controlled trial/
269.	double blind procedure/
270.	or/57-65

271.	systematic review/
272.	Meta-Analysis/
273.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
274.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
275.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
276.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
277.	(search* adj4 literature).ab.
278.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
279.	cochrane.jw.
280.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
281.	or/67-76
282.	Epidemiologic studies/
283.	Observational study/
284.	exp Cohort studies/
285.	(cohort adj (study or studies or analys* or data)).ti,ab.
286.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
287.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
288.	Controlled Before-After Studies/
289.	Historically Controlled Study/
290.	Interrupted Time Series Analysis/
291.	(before adj2 after adj2 (study or studies or data)).ti,ab.
292.	exp case control study/
293.	case control*.ti,ab.
294.	Cross-sectional studies/
295.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
296.	or/78-91
297.	exp "sensitivity and specificity"/
298.	(sensitivity or specificity).ti,ab.
299.	((pre test or pretest or post test) adj probability).ti,ab.
300.	(predictive value* or PPV or NPV).ti,ab.
301.	likelihood ratio*.ti,ab.
302.	((area under adj4 curve) or AUC).ti,ab.
303.	(receive* operat* characteristic* or receive* operat* curve* or ROC curve*).ti,ab.
304.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
305.	diagnostic accuracy/
306.	diagnostic test accuracy study/
307.	gold standard.ab.
308.	or/93-103
309.	56 and (66 or 77 or 92 or 104)

Cochrane Library (Wiley) search terms

#63.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#64.	((atrial or atria or atrium or auricular) near/3 fibrillat*):ti,ab
#65.	AF:ti,ab
#66.	#1 or #2 or #3
#67.	(stroke or strokes):ti,ab
#68.	((cerebro* or cerebral*) near/2 (accident* or apoplexy)):ti,ab
#69.	(CVA or poststroke or poststrokes):ti,ab
#70.	MeSH descriptor: [Intracranial Hemorrhages] explode all trees
#71.	(brain near/2 (attack* or hemorrhag* or haemorrhag* or bleed* or infarct*)):ti,ab
#72.	((intracerebral or intracranial or cerebral* or cerebro* or cerebrum or cerebellum or subarachnoid* or choroidal or basal ganglia or subdural) near/3 (hemorrhag* or haemorrhag* or bleed*)):ti,ab
#73.	MeSH descriptor: [Brain Infarction] explode all trees
#74.	MeSH descriptor: [Thromboembolism] this term only
#75.	MeSH descriptor: [Intracranial Embolism and Thrombosis] explode all trees
#76.	MeSH descriptor: [Carotid Artery Thrombosis] explode all trees
#77.	((brain or brainstem or cerebr* or cerebell* or vertebrobasil* or verte brobasil* or hemisphere* or intracran* or intracerebral or infratentorial or supratentorial or mca* or anterior circulation or carotid or transient or lacunar) near/3 (infarct* or thrombo* or emboli* or occlus* or hypoxi*)):ti,ab
#78.	((thrombo* or emboli*) near/2 event*):ti,ab
#79.	troponin:ti,ab
#80.	(OR #5-#17)
#81.	MeSH descriptor: [Risk] explode all trees
#82.	(risk near/3 (assess* or scheme* or rating* or tool* or rule* or index* or indices or score* or scoring or scale* or model* or system* or algorithm* or stratif* or criteria or calculat*)):ti,ab
#83.	MeSH descriptor: [Decision Support Systems, Clinical] this term only
#84.	MeSH descriptor: [Decision Support Techniques] this term only
#85.	((decision or assess* or screen*) near/3 (tool* or rule* or instrument* or index* or test* or technique* or analy* or system* or model*)):ti,ab
#86.	(logistic* near/1 model*)
#87.	MeSH descriptor: [Prognosis] explode all trees
#88.	MeSH descriptor: [Predictive Value of Tests] 3 tree(s) exploded
#89.	(prognos* or predict*):ti,ab
#90.	(OR #19-#27)
#91.	#18 AND #28
#92.	chads*:ti,ab
#93.	cha2ds2*:ti,ab
#94.	cha(2)ds(2)-vasc:ti,ab
#95.	("Anticoagulation and Risk Factors in Atrial Fibrillation" or ATRIA):ti,ab
#96.	Q stroke:ti,ab
#97.	ABC Stroke:ti,ab
#98.	(OR #29-#35)
#99.	#4 AND #36

A.6 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 6: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

85.	exp atrial fibrillation/
86.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
87.	AF.ti,ab.
88.	1 or 2 or 3
89.	letter/
90.	editorial/
91.	news/
92.	exp historical article/
93.	Anecdotes as Topic/
94.	comment/
95.	case report/
96.	(letter or comment*).ti.
97.	or/5-12
98.	randomized controlled trial/ or random*.ti,ab.
99.	13 not 14
100.	animals/ not humans/
101.	exp Animals, Laboratory/
102.	exp Animal Experimentation/
103.	exp Models, Animal/
104.	exp Rodentia/
105.	(rat or rats or mouse or mice).ti.
106.	or/15-21
107.	4 not 22
108.	limit 23 to English language
109.	economics/
110.	value of life/
111.	exp "costs and cost analysis"/
112.	exp Economics, Hospital/

113.	exp Economics, medical/
114.	Economics, nursing/
115.	economics, pharmaceutical/
116.	exp "Fees and Charges"/
117.	exp budgets/
118.	budget*.ti,ab.
119.	cost*.ti.
120.	(economic* or pharmaco?economic*).ti.
121.	(price* or pricing*).ti,ab.
122.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
123.	(financ* or fee or fees).ti,ab.
124.	(value adj2 (money or monetary)).ti,ab.
125.	or/25-40
126.	24 and 41

Embase (Ovid) search terms

75.	exp atrial fibrillation/
76.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
77.	AF.ti,ab.
78.	1 or 2 or 3
79.	letter.pt. or letter/
80.	note.pt.
81.	editorial.pt.
82.	case report/ or case study/
83.	(letter or comment*).ti.
84.	or/5-9
85.	randomized controlled trial/ or random*.ti,ab.
86.	10 not 11
87.	animal/ not human/
88.	nonhuman/
89.	exp Animal Experiment/
90.	exp Experimental Animal/
91.	animal model/
92.	exp Rodent/
93.	(rat or rats or mouse or mice).ti.
94.	or/12-19
95.	4 not 20
96.	limit 21 to English language
97.	health economics/
98.	exp economic evaluation/
99.	exp health care cost/
100.	exp fee/
101.	budget/
102.	funding/

103.	budget*.ti,ab.
104.	cost*.ti.
105.	(economic* or pharmaco?economic*).ti.
106.	(price* or pricing*).ti,ab.
107.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
108.	(financ* or fee or fees).ti,ab.
109.	(value adj2 (money or monetary)).ti,ab.
110.	or/23-35
111.	22 and 36

NHS EED and HTA (CRD) search terms

#9.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#10.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#11.	(AF)
#12.	(#1 or #2 or #3)

Atrial Fibrillation Stroke Risk Stratification Tools Prognostic Accuracy Search Strategy D

This literature search strategy was used for the following reviews:

- **What is the most accurate risk stratification tool for predicting stroke or thromboembolic events in people with atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.7 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Searches were constructed using the following approaches:

- Population AND Prognostic/risk factor terms AND Study filter(s)

Table 7: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Diagnostic tests studies Risk/Prognostic studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Diagnostic tests studies Risk/Prognostic studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None

Medline (Ovid) search terms

295.	exp atrial fibrillation/
296.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
297.	AF.ti,ab.
298.	1 or 2 or 3
299.	letter/
300.	editorial/
301.	news/
302.	exp historical article/
303.	Anecdotes as Topic/
304.	comment/

305.	case report/
306.	(letter or comment*).ti.
307.	or/5-12
308.	randomized controlled trial/ or random*.ti,ab.
309.	13 not 14
310.	animals/ not humans/
311.	exp Animals, Laboratory/
312.	exp Animal Experimentation/
313.	exp Models, Animal/
314.	exp Rodentia/
315.	(rat or rats or mouse or mice).ti.
316.	or/15-21
317.	4 not 22
318.	limit 23 to English language
319.	(stroke or strokes).ti,ab.
320.	((cerebro* or cerebral*) adj2 (accident* or apoplexy)).ti,ab.
321.	(CVA or poststroke or poststrokes).ti,ab.
322.	exp Intracranial Hemorrhages/
323.	(brain adj2 (attack* or hemorrhag* or haemorrhag* or bleed* or infarct*)).ti,ab.
324.	((intracerebral or intracranial or cerebral* or cerebro* or cerebrum or cerebellum or subarachnoid* or choroidal or basal ganglia or subdural) adj3 (hemorrhag* or haemorrhag* or bleed*)).ti,ab.
325.	exp Brain infarction/
326.	*Thromboembolism/
327.	exp "Intracranial Embolism and Thrombosis"/
328.	exp Carotid Artery Thrombosis/
329.	((brain or brainstem or cerebr* or cerebell* or vertebrobasil* or verte brobasil* or hemisphere* or intracran* or intracerebral or infratentorial or supratentorial or mca* or anterior circulation or carotid or transient or lacunar) adj3 (infarct* or thrombo* or emboli* or occlus* or hypoxi*)).ti,ab.
330.	((thrombo* or emboli*) adj2 event*).ti,ab.
331.	troponin*.ti,ab.
332.	or/25-37
333.	38 not 22
334.	limit 39 to English language
335.	exp risk/
336.	(risk adj3 (assess* or scheme* or rating* or tool* or rule* or index* or indices or score* or scoring or scale* or model* or system* or algorithm* or stratif* or criteria or calculat*)).ti,ab.
337.	Decision Support Systems, Clinical/ or Decision Support Techniques/
338.	((decision or assess* or screen*) adj3 (tool* or rule* or instrument* or index* or test* or technique* or analy* or system* or model*)).ti,ab.
339.	(logistic* adj model*).mp.
340.	exp Prognosis/
341.	exp "Predictive Value of Tests"/
342.	(prognos* or predict*).ti,ab.
343.	or/41-48

344.	40 and 49
345.	chads*.ti,ab.
346.	cha2ds2*.ti,ab.
347.	"cha(2)ds(2)-vasc".ti,ab.
348.	("Anticoagulation and Risk Factors in Atrial Fibrillation" or ATRIA).ti,ab.
349.	Q stroke.ti,ab.
350.	ABC Stroke.ti,ab.
351.	or/50-56
352.	24 and 57
353.	randomized controlled trial.pt.
354.	controlled clinical trial.pt.
355.	randomi#ed.ab.
356.	placebo.ab.
357.	randomly.ab.
358.	clinical trials as topic.sh.
359.	trial.ti.
360.	or/59-65
361.	Meta-Analysis/
362.	Meta-Analysis as Topic/
363.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
364.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
365.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
366.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
367.	(search* adj4 literature).ab.
368.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
369.	cochrane.jw.
370.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
371.	or/67-76
372.	exp "sensitivity and specificity"/
373.	(sensitivity or specificity).ti,ab.
374.	((pre test or pretest or post test) adj probability).ti,ab.
375.	(predictive value* or PPV or NPV).ti,ab.
376.	likelihood ratio*.ti,ab.
377.	likelihood function/
378.	((area under adj4 curve) or AUC).ti,ab.
379.	(receive* operat* characteristic* or receive* operat* curve* or ROC curve*).ti,ab.
380.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
381.	gold standard.ab.
382.	or/78-87
383.	Epidemiologic studies/
384.	Observational study/
385.	exp Cohort studies/

386.	(cohort adj (study or studies or analys* or data)).ti,ab.
387.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
388.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
389.	Controlled Before-After Studies/
390.	Historically Controlled Study/
391.	Interrupted Time Series Analysis/
392.	(before adj2 after adj2 (study or studies or data)).ti,ab.
393.	exp case control study/
394.	case control*.ti,ab.
395.	Cross-sectional studies/
396.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
397.	or/89-102
398.	58 and (66 or 77 or 88 or 103)

Embase (Ovid) search terms

310.	exp Atrial Fibrillation/
311.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
312.	AF.ti,ab.
313.	1 or 2 or 3
314.	letter.pt. or letter/
315.	note.pt.
316.	editorial.pt.
317.	case report/ or case study/
318.	(letter or comment*).ti.
319.	or/5-9
320.	randomized controlled trial/ or random*.ti,ab.
321.	10 not 11
322.	animal/ not human/
323.	nonhuman/
324.	exp Animal Experiment/
325.	exp Experimental Animal/
326.	animal model/
327.	exp Rodent/
328.	(rat or rats or mouse or mice).ti.
329.	or/12-19
330.	4 not 20
331.	limit 21 to English language
332.	(stroke or strokes).ti,ab.
333.	((cerebro* or cerebral*) adj2 (accident* or apoplexy)).ti,ab.
334.	(CVA or poststroke or poststrokes).ti,ab.
335.	*brain hemorrhage/ or *brain ventricle hemorrhage/ or *cerebellum hemorrhage/ or *subarachnoid hemorrhage/
336.	(brain adj2 (attack* or hemorrhag* or haemorrhag* or bleed* or infarct*)).ti,ab.
337.	((intracerebral or intracranial or cerebral* or cerebro* or cerebrum or cerebellum or

	subarachnoid* or choroidal or basal ganglia or subdural) adj3 (hemorrhag* or haemorrhag* or bleed*).ti,ab.
338.	*brain infarction/ or *brain infarction size/ or *brain stem infarction/ or *cerebellum infarction/
339.	*thromboembolism/
340.	*brain embolism/
341.	*Carotid Artery Thrombosis/
342.	((brain or brainstem or cerebr* or cerebell* or vertebrobasil* or verte brobasil* or hemisphere* or intracran* or intracerebral or infratentorial or supratentorial or mca* or anterior circulation or carotid or transient or lacunar) adj3 (infarct* or thrombo* or emboli* or occlus* or hypoxi*).ti,ab.
343.	((thrombo* or emboli*) adj2 event*).ti,ab.
344.	troponin*.ti,ab.
345.	or/23-35
346.	36 not 20
347.	limit 37 to English language
348.	risk/ or risk factor/ or risk assessment/
349.	(risk adj3 (assess* or scheme* or rating* or tool* or rule* or index* or indices or score* or scoring or scale* or model* or system* or algorithm* or stratif* or criteria or calculat*).ti,ab.
350.	decision support system/
351.	((decision or assess* or screen*) adj3 (tool* or rule* or instrument* or index* or test* or technique* or analy* or system* or model*).ti,ab.
352.	(logistic* adj model*).mp.
353.	prognosis/
354.	predictive value/
355.	(prognos* or predict*).ti,ab.
356.	or/39-46
357.	38 and 47
358.	chads*.ti,ab.
359.	cha2ds2*.ti,ab.
360.	"cha(2)ds(2)-vasc".ti,ab.
361.	("Anticoagulation and Risk Factors in Atrial Fibrillation" or ATRIA).ti,ab.
362.	Q stroke.ti,ab.
363.	ABC Stroke.ti,ab.
364.	or/48-54
365.	22 and 55
366.	random*.ti,ab.
367.	factorial*.ti,ab.
368.	(crossover* or cross over*).ti,ab.
369.	((doubl* or singl*) adj blind*).ti,ab.
370.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
371.	crossover procedure/
372.	single blind procedure/
373.	randomized controlled trial/
374.	double blind procedure/
375.	or/57-65

376.	systematic review/
377.	Meta-Analysis/
378.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
379.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
380.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
381.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
382.	(search* adj4 literature).ab.
383.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
384.	cochrane.jw.
385.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
386.	or/67-76
387.	Epidemiologic studies/
388.	Observational study/
389.	exp Cohort studies/
390.	(cohort adj (study or studies or analys* or data)).ti,ab.
391.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
392.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
393.	Controlled Before-After Studies/
394.	Historically Controlled Study/
395.	Interrupted Time Series Analysis/
396.	(before adj2 after adj2 (study or studies or data)).ti,ab.
397.	exp case control study/
398.	case control*.ti,ab.
399.	Cross-sectional studies/
400.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
401.	or/78-91
402.	exp "sensitivity and specificity"/
403.	(sensitivity or specificity).ti,ab.
404.	((pre test or pretest or post test) adj probability).ti,ab.
405.	(predictive value* or PPV or NPV).ti,ab.
406.	likelihood ratio*.ti,ab.
407.	((area under adj4 curve) or AUC).ti,ab.
408.	(receive* operat* characteristic* or receive* operat* curve* or ROC curve*).ti,ab.
409.	(diagnos* adj3 (performance* or accurac* or utilit* or value* or efficien* or effectiveness)).ti,ab.
410.	diagnostic accuracy/
411.	diagnostic test accuracy study/
412.	gold standard.ab.
413.	or/93-103
414.	56 and (66 or 77 or 92 or 104)

Cochrane Library (Wiley) search terms

#100.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#101.	((atrial or atria or atrium or auricular) near/3 fibrillat*):ti,ab
#102.	AF:ti,ab
#103.	#1 or #2 or #3
#104.	(stroke or strokes):ti,ab
#105.	((cerebro* or cerebral*) near/2 (accident* or apoplexy)):ti,ab
#106.	(CVA or poststroke or poststrokes):ti,ab
#107.	MeSH descriptor: [Intracranial Hemorrhages] explode all trees
#108.	(brain near/2 (attack* or hemorrhag* or haemorrhag* or bleed* or infarct*)):ti,ab
#109.	((intracerebral or intracranial or cerebral* or cerebro* or cerebrum or cerebellum or subarachnoid* or choroidal or basal ganglia or subdural) near/3 (hemorrhag* or haemorrhag* or bleed*)):ti,ab
#110.	MeSH descriptor: [Brain Infarction] explode all trees
#111.	MeSH descriptor: [Thromboembolism] this term only
#112.	MeSH descriptor: [Intracranial Embolism and Thrombosis] explode all trees
#113.	MeSH descriptor: [Carotid Artery Thrombosis] explode all trees
#114.	((brain or brainstem or cerebr* or cerebell* or vertebrobasil* or verte brobasil* or hemisphere* or intracran* or intracerebral or infratentorial or supratentorial or mca* or anterior circulation or carotid or transient or lacunar) near/3 (infarct* or thrombo* or emboli* or occlus* or hypoxi*)):ti,ab
#115.	((thrombo* or emboli*) near/2 event*):ti,ab
#116.	troponin:ti,ab
#117.	(OR #5-#17)
#118.	MeSH descriptor: [Risk] explode all trees
#119.	(risk near/3 (assess* or scheme* or rating* or tool* or rule* or index* or indices or score* or scoring or scale* or model* or system* or algorithm* or stratif* or criteria or calculat*)):ti,ab
#120.	MeSH descriptor: [Decision Support Systems, Clinical] this term only
#121.	MeSH descriptor: [Decision Support Techniques] this term only
#122.	((decision or assess* or screen*) near/3 (tool* or rule* or instrument* or index* or test* or technique* or analy* or system* or model*)):ti,ab
#123.	(logistic* near/1 model*)
#124.	MeSH descriptor: [Prognosis] explode all trees
#125.	MeSH descriptor: [Predictive Value of Tests] 3 tree(s) exploded
#126.	(prognos* or predict*):ti,ab
#127.	(OR #19-#27)
#128.	#18 AND #28
#129.	chads*:ti,ab
#130.	cha2ds2*:ti,ab
#131.	cha(2)ds(2)-vasc:ti,ab
#132.	("Anticoagulation and Risk Factors in Atrial Fibrillation" or ATRIA):ti,ab
#133.	Q stroke:ti,ab
#134.	ABC Stroke:ti,ab
#135.	(OR #29-#35)
#136.	#4 AND #36

A.8 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA. NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 8: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

127.	exp atrial fibrillation/
128.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
129.	AF.ti,ab.
130.	1 or 2 or 3
131.	letter/
132.	editorial/
133.	news/
134.	exp historical article/
135.	Anecdotes as Topic/
136.	comment/
137.	case report/
138.	(letter or comment*).ti.
139.	or/5-12
140.	randomized controlled trial/ or random*.ti,ab.
141.	13 not 14
142.	animals/ not humans/
143.	exp Animals, Laboratory/
144.	exp Animal Experimentation/
145.	exp Models, Animal/
146.	exp Rodentia/
147.	(rat or rats or mouse or mice).ti.
148.	or/15-21
149.	4 not 22
150.	limit 23 to English language
151.	economics/
152.	value of life/
153.	exp "costs and cost analysis"/
154.	exp Economics, Hospital/

155.	exp Economics, medical/
156.	Economics, nursing/
157.	economics, pharmaceutical/
158.	exp "Fees and Charges"/
159.	exp budgets/
160.	budget*.ti,ab.
161.	cost*.ti.
162.	(economic* or pharmaco?economic*).ti.
163.	(price* or pricing*).ti,ab.
164.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
165.	(financ* or fee or fees).ti,ab.
166.	(value adj2 (money or monetary)).ti,ab.
167.	or/25-40
168.	24 and 41

Embase (Ovid) search terms

112.	exp atrial fibrillation/
113.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
114.	AF.ti,ab.
115.	1 or 2 or 3
116.	letter.pt. or letter/
117.	note.pt.
118.	editorial.pt.
119.	case report/ or case study/
120.	(letter or comment*).ti.
121.	or/5-9
122.	randomized controlled trial/ or random*.ti,ab.
123.	10 not 11
124.	animal/ not human/
125.	nonhuman/
126.	exp Animal Experiment/
127.	exp Experimental Animal/
128.	animal model/
129.	exp Rodent/
130.	(rat or rats or mouse or mice).ti.
131.	or/12-19
132.	4 not 20
133.	limit 21 to English language
134.	health economics/
135.	exp economic evaluation/
136.	exp health care cost/
137.	exp fee/
138.	budget/
139.	funding/

140.	budget*.ti,ab.
141.	cost*.ti.
142.	(economic* or pharmaco?economic*).ti.
143.	(price* or pricing*).ti,ab.
144.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
145.	(financ* or fee or fees).ti,ab.
146.	(value adj2 (money or monetary)).ti,ab.
147.	or/23-35
148.	22 and 36

NHS EED and HTA (CRD) search terms

#13.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#14.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#15.	(AF)
#16.	(#1 or #2 or #3)

Atrial Fibrillation Bleeding Prediction Search Strategy E

This literature search strategy was used for the following reviews:

- **What is the most clinically and cost-effective tool for assessing bleeding risk in people with atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.9 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Searches were constructed using the following approaches:

- Population AND Prognostic/risk factor terms AND Study filter(s)

Table 9: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Prognostic/risk factor studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Prognostic/risk factor studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None

Medline (Ovid) search terms

399.	exp atrial fibrillation/
400.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
401.	AF.ti,ab.
402.	1 or 2 or 3
403.	letter/
404.	editorial/
405.	news/
406.	exp historical article/
407.	Anecdotes as Topic/
408.	comment/
409.	case report/

410.	(letter or comment*).ti.
411.	or/5-12
412.	randomized controlled trial/ or random*.ti,ab.
413.	13 not 14
414.	animals/ not humans/
415.	exp Animals, Laboratory/
416.	exp Animal Experimentation/
417.	exp Models, Animal/
418.	exp Rodentia/
419.	(rat or rats or mouse or mice).ti.
420.	or/15-21
421.	4 not 22
422.	limit 23 to English language
423.	proportional hazards models/ or logistic models/ or risk assessment/ or risk factors/ or decision support systems, clinical/ or decision support techniques/
424.	(risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab.
425.	Hemorrhage/
426.	25 and 26 and 27
427.	ATRIA.ti,ab.
428.	((ABC or Orbit) adj2 (bleed* or scor*)).ti,ab.
429.	HEMORR2HAGES.ti,ab.
430.	"HEMORR(2)HAGES".ti,ab.
431.	(hasbled or has-bled).ti,ab.
432.	((bleed* or hemorrhag* or haemorrhag*) adj3 scor*).ti,ab.
433.	((bleed* or hemorrhag* or haemorrhag*) adj3 (risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab.
434.	or/28-35
435.	24 and 36
436.	randomized controlled trial.pt.
437.	controlled clinical trial.pt.
438.	randomi#ed.ab.
439.	placebo.ab.
440.	randomly.ab.
441.	clinical trials as topic.sh.
442.	trial.ti.
443.	or/38-44
444.	Meta-Analysis/
445.	Meta-Analysis as Topic/
446.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
447.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
448.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
449.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.

450.	(search* adj4 literature).ab.
451.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
452.	cochrane.jw.
453.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
454.	or/46-55
455.	Epidemiologic studies/
456.	Observational study/
457.	exp Cohort studies/
458.	(cohort adj (study or studies or analys* or data)).ti,ab.
459.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
460.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
461.	Controlled Before-After Studies/
462.	Historically Controlled Study/
463.	Interrupted Time Series Analysis/
464.	(before adj2 after adj2 (study or studies or data)).ti,ab.
465.	exp case control study/
466.	case control*.ti,ab.
467.	Cross-sectional studies/
468.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
469.	Or/ 57-70
470.	exp prognosis/
471.	(prognos* or predict*).ti,ab.
472.	Logistic models/
473.	Disease progression/
474.	or/72-75
475.	37 and (45 or 56 or 71 or 76)

Embase (Ovid) search terms

415.	exp atrial fibrillation/
416.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
417.	AF.ti,ab.
418.	1 or 2 or 3
419.	letter.pt. or letter/
420.	note.pt.
421.	editorial.pt.
422.	case report/ or case study/
423.	(letter or comment*).ti.
424.	or/5-9
425.	randomized controlled trial/ or random*.ti,ab.
426.	10 not 11
427.	animal/ not human/
428.	nonhuman/
429.	exp Animal Experiment/

430.	exp Experimental Animal/
431.	animal model/
432.	exp Rodent/
433.	(rat or rats or mouse or mice).ti.
434.	or/12-19
435.	4 not 20
436.	limit 21 to English language
437.	proportional hazards model/ or hazard ratio/ or risk assessment/ or risk factors/ or decision support system/ or rating scale/ or scoring system/ or "named inventories, questionnaires and rating scales"/
438.	*bleeding/
439.	(risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab.
440.	23 and 24 and 25
441.	ATRIA.ti,ab.
442.	((ABC or Orbit) adj2 (bleed* or scor*)).ti,ab.
443.	HEMORR2HAGES.ti,ab.
444.	"HEMORR(2)HAGES".ti,ab.
445.	*"HAS BLED Score"/
446.	(hasbled or has-bled).ti,ab.
447.	((bleed* or hemorrhag* or haemorrhag*) adj3 scor*).ti,ab.
448.	((bleed* or hemorrhag* or haemorrhag*) adj3 (risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*)).ti,ab.
449.	or/26-34
450.	22 and 35
451.	systematic review/
452.	Meta-Analysis/
453.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
454.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
455.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
456.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
457.	(search* adj4 literature).ab.
458.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
459.	cochrane.jw.
460.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
461.	or/37-46
462.	random*.ti,ab.
463.	factorial*.ti,ab.
464.	(crossover* or cross over*).ti,ab.
465.	((doubl* or singl*) adj blind*).ti,ab.
466.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
467.	crossover procedure/
468.	single blind procedure/

469.	randomized controlled trial/
470.	double blind procedure/
471.	or/48-56
472.	Epidemiologic studies/
473.	Observational study/
474.	exp Cohort studies/
475.	(cohort adj (study or studies or analys* or data)).ti,ab.
476.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
477.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
478.	Controlled Before-After Studies/
479.	Historically Controlled Study/
480.	Interrupted Time Series Analysis/
481.	(before adj2 after adj2 (study or studies or data)).ti,ab.
482.	exp case control study/
483.	case control*.ti,ab.
484.	Cross-sectional studies/
485.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
486.	or/58-71
487.	(prognos* or predict*).ti,ab.
488.	prognosis/
489.	predictive value/
490.	or/73-75
491.	36 and (47 or 57 or 72 or 76)

Cochrane Library (Wiley) search terms

#137.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#138.	((atrial or atria or atrium or auricular) near/3 fibrillat*):ti,ab
#139.	AF:ti,ab
#140.	#1 or #2 or #3
#141.	MeSH descriptor: [Proportional Hazards Models] this term only
#142.	MeSH descriptor: [Logistic Models] this term only
#143.	MeSH descriptor: [Risk Assessment] this term only
#144.	MeSH descriptor: [Risk Factors] this term only
#145.	MeSH descriptor: [Decision Support Systems, Clinical] this term only
#146.	MeSH descriptor: [Decision Support Techniques] this term only
#147.	(or #5-#10)
#148.	(risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*):ti,ab
#149.	MeSH descriptor: [Hemorrhage] this term only
#150.	#11 and #12 and #13
#151.	ATRIA:ti,ab
#152.	((ABC or Orbit) near/2 (bleed* or scor*)):ti,ab
#153.	HEMORR2HAGES:ti,ab
#154.	HEMORR(2)HAGES:ti,ab

#155.	(hasbled or has-bled):ti,ab
#156.	((bleed* or hemorrhag* or haemorrhag*) near/3 scor*):ti,ab
#157.	((bleed* or hemorrhag* or haemorrhag*) near/3 (risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*)):ti,ab
#158.	(or #14-#21)
#159.	#4 and #22

A.10 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 10: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

169.	exp atrial fibrillation/
170.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
171.	AF.ti,ab.
172.	1 or 2 or 3
173.	letter/
174.	editorial/
175.	news/
176.	exp historical article/
177.	Anecdotes as Topic/
178.	comment/
179.	case report/
180.	(letter or comment*).ti.
181.	or/5-12
182.	randomized controlled trial/ or random*.ti,ab.
183.	13 not 14
184.	animals/ not humans/
185.	exp Animals, Laboratory/
186.	exp Animal Experimentation/
187.	exp Models, Animal/
188.	exp Rodentia/

189.	(rat or rats or mouse or mice).ti.
190.	or/15-21
191.	4 not 22
192.	limit 23 to English language
193.	economics/
194.	value of life/
195.	exp "costs and cost analysis"/
196.	exp Economics, Hospital/
197.	exp Economics, medical/
198.	Economics, nursing/
199.	economics, pharmaceutical/
200.	exp "Fees and Charges"/
201.	exp budgets/
202.	budget*.ti,ab.
203.	cost*.ti.
204.	(economic* or pharmaco?economic*).ti.
205.	(price* or pricing*).ti,ab.
206.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
207.	(financ* or fee or fees).ti,ab.
208.	(value adj2 (money or monetary)).ti,ab.
209.	or/25-40
210.	24 and 41

Embase (Ovid) search terms

149.	exp atrial fibrillation/
150.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
151.	AF.ti,ab.
152.	1 or 2 or 3
153.	letter.pt. or letter/
154.	note.pt.
155.	editorial.pt.
156.	case report/ or case study/
157.	(letter or comment*).ti.
158.	or/5-9
159.	randomized controlled trial/ or random*.ti,ab.
160.	10 not 11
161.	animal/ not human/
162.	nonhuman/
163.	exp Animal Experiment/
164.	exp Experimental Animal/
165.	animal model/
166.	exp Rodent/
167.	(rat or rats or mouse or mice).ti.
168.	or/12-19

169.	4 not 20
170.	limit 21 to English language
171.	health economics/
172.	exp economic evaluation/
173.	exp health care cost/
174.	exp fee/
175.	budget/
176.	funding/
177.	budget*.ti,ab.
178.	cost*.ti.
179.	(economic* or pharmaco?economic*).ti.
180.	(price* or pricing*).ti,ab.
181.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
182.	(financ* or fee or fees).ti,ab.
183.	(value adj2 (money or monetary)).ti,ab.
184.	or/23-35
185.	22 and 36

NHS EED and HTA (CRD) search terms

#17.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#18.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#19.	(AF)
#20.	(#1 or #2 or #3)

Atrial Fibrillation Bleeding Prediction Search Strategy F

This literature search strategy was used for the following reviews:

- **What is the most accurate risk stratification tool for predicting bleeding events in people with atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.11 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Searches were constructed using the following approaches:

- Population AND Prognostic/risk factor terms AND Study filter(s)

Table 11: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Prognostic/risk factor studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Prognostic/risk factor studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None

Medline (Ovid) search terms

476.	exp atrial fibrillation/
477.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
478.	AF.ti,ab.
479.	1 or 2 or 3
480.	letter/
481.	editorial/
482.	news/
483.	exp historical article/
484.	Anecdotes as Topic/
485.	comment/
486.	case report/

487.	(letter or comment*).ti.
488.	or/5-12
489.	randomized controlled trial/ or random*.ti,ab.
490.	13 not 14
491.	animals/ not humans/
492.	exp Animals, Laboratory/
493.	exp Animal Experimentation/
494.	exp Models, Animal/
495.	exp Rodentia/
496.	(rat or rats or mouse or mice).ti.
497.	or/15-21
498.	4 not 22
499.	limit 23 to English language
500.	proportional hazards models/ or logistic models/ or risk assessment/ or risk factors/ or decision support systems, clinical/ or decision support techniques/
501.	(risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab.
502.	Hemorrhage/
503.	25 and 26 and 27
504.	ATRIA.ti,ab.
505.	((ABC or Orbit) adj2 (bleed* or scor*)).ti,ab.
506.	HEMORR2HAGES.ti,ab.
507.	"HEMORR(2)HAGES".ti,ab.
508.	(hasbled or has-bled).ti,ab.
509.	((bleed* or hemorrhag* or haemorrhag*) adj3 scor*).ti,ab.
510.	((bleed* or hemorrhag* or haemorrhag*) adj3 (risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab.
511.	or/28-35
512.	24 and 36
513.	randomized controlled trial.pt.
514.	controlled clinical trial.pt.
515.	randomi#ed.ab.
516.	placebo.ab.
517.	randomly.ab.
518.	clinical trials as topic.sh.
519.	trial.ti.
520.	or/38-44
521.	Meta-Analysis/
522.	Meta-Analysis as Topic/
523.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
524.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
525.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
526.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.

527.	(search* adj4 literature).ab.
528.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
529.	cochrane.jw.
530.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
531.	or/46-55
532.	Epidemiologic studies/
533.	Observational study/
534.	exp Cohort studies/
535.	(cohort adj (study or studies or analys* or data)).ti,ab.
536.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
537.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
538.	Controlled Before-After Studies/
539.	Historically Controlled Study/
540.	Interrupted Time Series Analysis/
541.	(before adj2 after adj2 (study or studies or data)).ti,ab.
542.	exp case control study/
543.	case control*.ti,ab.
544.	Cross-sectional studies/
545.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
546.	Or/ 57-70
547.	exp prognosis/
548.	(prognos* or predict*).ti,ab.
549.	Logistic models/
550.	Disease progression/
551.	or/72-75
552.	37 and (45 or 56 or 71 or 76)

Embase (Ovid) search terms

492.	exp atrial fibrillation/
493.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
494.	AF.ti,ab.
495.	1 or 2 or 3
496.	letter.pt. or letter/
497.	note.pt.
498.	editorial.pt.
499.	case report/ or case study/
500.	(letter or comment*).ti.
501.	or/5-9
502.	randomized controlled trial/ or random*.ti,ab.
503.	10 not 11
504.	animal/ not human/
505.	nonhuman/
506.	exp Animal Experiment/

507.	exp Experimental Animal/
508.	animal model/
509.	exp Rodent/
510.	(rat or rats or mouse or mice).ti.
511.	or/12-19
512.	4 not 20
513.	limit 21 to English language
514.	proportional hazards model/ or hazard ratio/ or risk assessment/ or risk factors/ or decision support system/ or rating scale/ or scoring system/ or "named inventories, questionnaires and rating scales"/
515.	*bleeding/
516.	(risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab.
517.	23 and 24 and 25
518.	ATRIA.ti,ab.
519.	((ABC or Orbit) adj2 (bleed* or scor*)).ti,ab.
520.	HEMORR2HAGES.ti,ab.
521.	"HEMORR(2)HAGES".ti,ab.
522.	*"HAS BLED Score"/
523.	(hasbled or has-bled).ti,ab.
524.	((bleed* or hemorrhag* or haemorrhag*) adj3 scor*).ti,ab.
525.	((bleed* or hemorrhag* or haemorrhag*) adj3 (risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*)).ti,ab.
526.	or/26-34
527.	22 and 35
528.	systematic review/
529.	Meta-Analysis/
530.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
531.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
532.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
533.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
534.	(search* adj4 literature).ab.
535.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
536.	cochrane.jw.
537.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
538.	or/37-46
539.	random*.ti,ab.
540.	factorial*.ti,ab.
541.	(crossover* or cross over*).ti,ab.
542.	((doubl* or singl*) adj blind*).ti,ab.
543.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
544.	crossover procedure/
545.	single blind procedure/

546.	randomized controlled trial/
547.	double blind procedure/
548.	or/48-56
549.	Epidemiologic studies/
550.	Observational study/
551.	exp Cohort studies/
552.	(cohort adj (study or studies or analys* or data)).ti,ab.
553.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
554.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
555.	Controlled Before-After Studies/
556.	Historically Controlled Study/
557.	Interrupted Time Series Analysis/
558.	(before adj2 after adj2 (study or studies or data)).ti,ab.
559.	exp case control study/
560.	case control*.ti,ab.
561.	Cross-sectional studies/
562.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
563.	or/58-71
564.	(prognos* or predict*).ti,ab.
565.	prognosis/
566.	predictive value/
567.	or/73-75
568.	36 and (47 or 57 or 72 or 76)

Cochrane Library (Wiley) search terms

#160.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#161.	((atrial or atria or atrium or auricular) near/3 fibrillat*).ti,ab
#162.	AF:ti,ab
#163.	#1 or #2 or #3
#164.	MeSH descriptor: [Proportional Hazards Models] this term only
#165.	MeSH descriptor: [Logistic Models] this term only
#166.	MeSH descriptor: [Risk Assessment] this term only
#167.	MeSH descriptor: [Risk Factors] this term only
#168.	MeSH descriptor: [Decision Support Systems, Clinical] this term only
#169.	MeSH descriptor: [Decision Support Techniques] this term only
#170.	(or #5-#10)
#171.	(risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab
#172.	MeSH descriptor: [Hemorrhage] this term only
#173.	#11 and #12 and #13
#174.	ATRIA:ti,ab
#175.	((ABC or Orbit) near/2 (bleed* or scor*)):ti,ab
#176.	HEMORR2HAGES:ti,ab
#177.	HEMORR(2)HAGES:ti,ab

#178.	(hasbled or has-bled):ti,ab
#179.	((bleed* or hemorrhag* or haemorrhag*) near/3 scor*):ti,ab
#180.	((bleed* or hemorrhag* or haemorrhag*) near/3 (risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*)):ti,ab
#181.	(or #14-#21)
#182.	#4 and #22

A.12 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 12: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

211.	exp atrial fibrillation/
212.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
213.	AF.ti,ab.
214.	1 or 2 or 3
215.	letter/
216.	editorial/
217.	news/
218.	exp historical article/
219.	Anecdotes as Topic/
220.	comment/
221.	case report/
222.	(letter or comment*).ti.
223.	or/5-12
224.	randomized controlled trial/ or random*.ti,ab.
225.	13 not 14
226.	animals/ not humans/
227.	exp Animals, Laboratory/
228.	exp Animal Experimentation/
229.	exp Models, Animal/
230.	exp Rodentia/

231.	(rat or rats or mouse or mice).ti.
232.	or/15-21
233.	4 not 22
234.	limit 23 to English language
235.	economics/
236.	value of life/
237.	exp "costs and cost analysis"/
238.	exp Economics, Hospital/
239.	exp Economics, medical/
240.	Economics, nursing/
241.	economics, pharmaceutical/
242.	exp "Fees and Charges"/
243.	exp budgets/
244.	budget*.ti,ab.
245.	cost*.ti.
246.	(economic* or pharmaco?economic*).ti.
247.	(price* or pricing*).ti,ab.
248.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
249.	(financ* or fee or fees).ti,ab.
250.	(value adj2 (money or monetary)).ti,ab.
251.	or/25-40
252.	24 and 41

Embase (Ovid) search terms

186.	exp atrial fibrillation/
187.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
188.	AF.ti,ab.
189.	1 or 2 or 3
190.	letter.pt. or letter/
191.	note.pt.
192.	editorial.pt.
193.	case report/ or case study/
194.	(letter or comment*).ti.
195.	or/5-9
196.	randomized controlled trial/ or random*.ti,ab.
197.	10 not 11
198.	animal/ not human/
199.	nonhuman/
200.	exp Animal Experiment/
201.	exp Experimental Animal/
202.	animal model/
203.	exp Rodent/
204.	(rat or rats or mouse or mice).ti.
205.	or/12-19

206.	4 not 20
207.	limit 21 to English language
208.	health economics/
209.	exp economic evaluation/
210.	exp health care cost/
211.	exp fee/
212.	budget/
213.	funding/
214.	budget*.ti,ab.
215.	cost*.ti.
216.	(economic* or pharmaco?economic*).ti.
217.	(price* or pricing*).ti,ab.
218.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
219.	(financ* or fee or fees).ti,ab.
220.	(value adj2 (money or monetary)).ti,ab.
221.	or/23-35
222.	22 and 36

NHS EED and HTA (CRD) search terms

#21.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#22.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#23.	(AF)
#24.	(#1 or #2 or #3)

Atrial Fibrillation Bleeding Prediction Search Strategy F

This literature search strategy was used for the following reviews:

- **What is the most accurate risk stratification tool for predicting bleeding events in people with atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual. {NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.13 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Searches were constructed using the following approaches:

- Population AND Prognostic/risk factor terms AND Study filter(s)

Table 13: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Prognostic/risk factor studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies Prognostic/risk factor studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None

Medline (Ovid) search terms

553.	exp atrial fibrillation/
554.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
555.	AF.ti,ab.
556.	1 or 2 or 3
557.	letter/
558.	editorial/
559.	news/
560.	exp historical article/
561.	Anecdotes as Topic/
562.	comment/
563.	case report/

564.	(letter or comment*).ti.
565.	or/5-12
566.	randomized controlled trial/ or random*.ti,ab.
567.	13 not 14
568.	animals/ not humans/
569.	exp Animals, Laboratory/
570.	exp Animal Experimentation/
571.	exp Models, Animal/
572.	exp Rodentia/
573.	(rat or rats or mouse or mice).ti.
574.	or/15-21
575.	4 not 22
576.	limit 23 to English language
577.	proportional hazards models/ or logistic models/ or risk assessment/ or risk factors/ or decision support systems, clinical/ or decision support techniques/
578.	(risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab.
579.	Hemorrhage/
580.	25 and 26 and 27
581.	ATRIA.ti,ab.
582.	((ABC or Orbit) adj2 (bleed* or scor*)).ti,ab.
583.	HEMORR2HAGES.ti,ab.
584.	"HEMORR(2)HAGES".ti,ab.
585.	(hasbled or has-bled).ti,ab.
586.	((bleed* or hemorrhag* or haemorrhag*) adj3 scor*).ti,ab.
587.	((bleed* or hemorrhag* or haemorrhag*) adj3 (risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab.
588.	or/28-35
589.	24 and 36
590.	randomized controlled trial.pt.
591.	controlled clinical trial.pt.
592.	randomi#ed.ab.
593.	placebo.ab.
594.	randomly.ab.
595.	clinical trials as topic.sh.
596.	trial.ti.
597.	or/38-44
598.	Meta-Analysis/
599.	Meta-Analysis as Topic/
600.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
601.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
602.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
603.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.

604.	(search* adj4 literature).ab.
605.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
606.	cochrane.jw.
607.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
608.	or/46-55
609.	Epidemiologic studies/
610.	Observational study/
611.	exp Cohort studies/
612.	(cohort adj (study or studies or analys* or data)).ti,ab.
613.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
614.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
615.	Controlled Before-After Studies/
616.	Historically Controlled Study/
617.	Interrupted Time Series Analysis/
618.	(before adj2 after adj2 (study or studies or data)).ti,ab.
619.	exp case control study/
620.	case control*.ti,ab.
621.	Cross-sectional studies/
622.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
623.	Or/ 57-70
624.	exp prognosis/
625.	(prognos* or predict*).ti,ab.
626.	Logistic models/
627.	Disease progression/
628.	or/72-75
629.	37 and (45 or 56 or 71 or 76)

Embase (Ovid) search terms

569.	exp atrial fibrillation/
570.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
571.	AF.ti,ab.
572.	1 or 2 or 3
573.	letter.pt. or letter/
574.	note.pt.
575.	editorial.pt.
576.	case report/ or case study/
577.	(letter or comment*).ti.
578.	or/5-9
579.	randomized controlled trial/ or random*.ti,ab.
580.	10 not 11
581.	animal/ not human/
582.	nonhuman/
583.	exp Animal Experiment/

584.	exp Experimental Animal/
585.	animal model/
586.	exp Rodent/
587.	(rat or rats or mouse or mice).ti.
588.	or/12-19
589.	4 not 20
590.	limit 21 to English language
591.	proportional hazards model/ or hazard ratio/ or risk assessment/ or risk factors/ or decision support system/ or rating scale/ or scoring system/ or "named inventories, questionnaires and rating scales"/
592.	*bleeding/
593.	(risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab.
594.	23 and 24 and 25
595.	ATRIA.ti,ab.
596.	((ABC or Orbit) adj2 (bleed* or scor*)).ti,ab.
597.	HEMORR2HAGES.ti,ab.
598.	"HEMORR(2)HAGES".ti,ab.
599.	*"HAS BLED Score"/
600.	(hasbled or has-bled).ti,ab.
601.	((bleed* or hemorrhag* or haemorrhag*) adj3 scor*).ti,ab.
602.	((bleed* or hemorrhag* or haemorrhag*) adj3 (risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*)).ti,ab.
603.	or/26-34
604.	22 and 35
605.	systematic review/
606.	Meta-Analysis/
607.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
608.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
609.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
610.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
611.	(search* adj4 literature).ab.
612.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
613.	cochrane.jw.
614.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
615.	or/37-46
616.	random*.ti,ab.
617.	factorial*.ti,ab.
618.	(crossover* or cross over*).ti,ab.
619.	((doubl* or singl*) adj blind*).ti,ab.
620.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
621.	crossover procedure/
622.	single blind procedure/

623.	randomized controlled trial/
624.	double blind procedure/
625.	or/48-56
626.	Epidemiologic studies/
627.	Observational study/
628.	exp Cohort studies/
629.	(cohort adj (study or studies or analys* or data)).ti,ab.
630.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
631.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
632.	Controlled Before-After Studies/
633.	Historically Controlled Study/
634.	Interrupted Time Series Analysis/
635.	(before adj2 after adj2 (study or studies or data)).ti,ab.
636.	exp case control study/
637.	case control*.ti,ab.
638.	Cross-sectional studies/
639.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
640.	or/58-71
641.	(prognos* or predict*).ti,ab.
642.	prognosis/
643.	predictive value/
644.	or/73-75
645.	36 and (47 or 57 or 72 or 76)

Cochrane Library (Wiley) search terms

#183.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#184.	((atrial or atria or atrium or auricular) near/3 fibrillat*).ti,ab
#185.	AF:ti,ab
#186.	#1 or #2 or #3
#187.	MeSH descriptor: [Proportional Hazards Models] this term only
#188.	MeSH descriptor: [Logistic Models] this term only
#189.	MeSH descriptor: [Risk Assessment] this term only
#190.	MeSH descriptor: [Risk Factors] this term only
#191.	MeSH descriptor: [Decision Support Systems, Clinical] this term only
#192.	MeSH descriptor: [Decision Support Techniques] this term only
#193.	(or #5-#10)
#194.	(risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*).ti,ab
#195.	MeSH descriptor: [Hemorrhage] this term only
#196.	#11 and #12 and #13
#197.	ATRIA:ti,ab
#198.	((ABC or Orbit) near/2 (bleed* or scor*)):ti,ab
#199.	HEMORR2HAGES:ti,ab
#200.	HEMORR(2)HAGES:ti,ab

#201.	(hasbled or has-bled):ti,ab
#202.	((bleed* or hemorrhag* or haemorrhag*) near/3 scor*):ti,ab
#203.	((bleed* or hemorrhag* or haemorrhag*) near/3 (risk* tool* or stratification or rating scale* or scor* system* or scor* schem* or risk* schem* or risk* stratif* or risk* classif* or risk* assess*)):ti,ab
#204.	(or #14-#21)
#205.	#4 and #22

A.14 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 14: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

253.	exp atrial fibrillation/
254.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
255.	AF.ti,ab.
256.	1 or 2 or 3
257.	letter/
258.	editorial/
259.	news/
260.	exp historical article/
261.	Anecdotes as Topic/
262.	comment/
263.	case report/
264.	(letter or comment*).ti.
265.	or/5-12
266.	randomized controlled trial/ or random*.ti,ab.
267.	13 not 14
268.	animals/ not humans/
269.	exp Animals, Laboratory/
270.	exp Animal Experimentation/
271.	exp Models, Animal/
272.	exp Rodentia/

273.	(rat or rats or mouse or mice).ti.
274.	or/15-21
275.	4 not 22
276.	limit 23 to English language
277.	economics/
278.	value of life/
279.	exp "costs and cost analysis"/
280.	exp Economics, Hospital/
281.	exp Economics, medical/
282.	Economics, nursing/
283.	economics, pharmaceutical/
284.	exp "Fees and Charges"/
285.	exp budgets/
286.	budget*.ti,ab.
287.	cost*.ti.
288.	(economic* or pharmaco?economic*).ti.
289.	(price* or pricing*).ti,ab.
290.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
291.	(financ* or fee or fees).ti,ab.
292.	(value adj2 (money or monetary)).ti,ab.
293.	or/25-40
294.	24 and 41

Embase (Ovid) search terms

223.	exp atrial fibrillation/
224.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
225.	AF.ti,ab.
226.	1 or 2 or 3
227.	letter.pt. or letter/
228.	note.pt.
229.	editorial.pt.
230.	case report/ or case study/
231.	(letter or comment*).ti.
232.	or/5-9
233.	randomized controlled trial/ or random*.ti,ab.
234.	10 not 11
235.	animal/ not human/
236.	nonhuman/
237.	exp Animal Experiment/
238.	exp Experimental Animal/
239.	animal model/
240.	exp Rodent/
241.	(rat or rats or mouse or mice).ti.
242.	or/12-19

243.	4 not 20
244.	limit 21 to English language
245.	health economics/
246.	exp economic evaluation/
247.	exp health care cost/
248.	exp fee/
249.	budget/
250.	funding/
251.	budget*.ti,ab.
252.	cost*.ti.
253.	(economic* or pharmaco?economic*).ti.
254.	(price* or pricing*).ti,ab.
255.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
256.	(financ* or fee or fees).ti,ab.
257.	(value adj2 (money or monetary)).ti,ab.
258.	or/23-35
259.	22 and 36

NHS EED and HTA (CRD) search terms

#25.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#26.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#27.	(AF)
#28.	(#1 or #2 or #3)

Atrial Fibrillation Anticoagulation Search Strategy G

This literature search strategy was used for the following reviews:

- **What is the most clinically and cost-effective anticoagulant therapy for stroke prevention in people with atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.15 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 15: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None
Epistemonikos (Epistemonikos Foundation)	Inception – 31 December 2019	Systematic review studies

Medline (Ovid) search terms

630.	exp atrial fibrillation/
631.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
632.	AF.ti,ab.
633.	1 or 2 or 3
634.	letter/
635.	editorial/
636.	news/
637.	exp historical article/
638.	Anecdotes as Topic/
639.	comment/
640.	case report/
641.	(letter or comment*).ti.
642.	or/5-12

643.	randomized controlled trial/ or random*.ti,ab.
644.	13 not 14
645.	animals/ not humans/
646.	exp Animals, Laboratory/
647.	exp Animal Experimentation/
648.	exp Models, Animal/
649.	exp Rodentia/
650.	(rat or rats or mouse or mice).ti.
651.	or/15-21
652.	4 not 22
653.	limit 23 to English language
654.	Anticoagulants/
655.	Anticoagulat*.ti,ab.
656.	Warfarin/
657.	Dabigatran/
658.	Rivaroxaban/
659.	(warfarin or apixaban or dabigatran or rivaroxaban or edoxaban).ti,ab.
660.	Coumarins/
661.	(coumarins or coumadin*).ti,ab.
662.	Antithrombins/ or Factor Xa Inhibitors/
663.	(factor xa adj2 (antagonist* or inhibit*)).ti,ab.
664.	xabans.ti,ab.
665.	(vitamin k adj2 antagonist*).ti,ab.
666.	direct antithrombin*.ti,ab.
667.	direct thrombin* inhibit*.ti,ab.
668.	or/25-38
669.	24 and 39
670.	randomized controlled trial.pt.
671.	controlled clinical trial.pt.
672.	randomi#ed.ab.
673.	placebo.ab.
674.	randomly.ab.
675.	clinical trials as topic.sh.
676.	trial.ti.
677.	or/41-47
678.	Meta-Analysis/
679.	Meta-Analysis as Topic/
680.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
681.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
682.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
683.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
684.	(search* adj4 literature).ab.
685.	(medline or pubmed or cochrane or embase or psychlit or psychlit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.

686.	cochrane.jw.
687.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
688.	or/49-58
689.	Epidemiologic studies/
690.	Observational study/
691.	exp Cohort studies/
692.	(cohort adj (study or studies or analys* or data)).ti,ab.
693.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
694.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
695.	Controlled Before-After Studies/
696.	Historically Controlled Study/
697.	Interrupted Time Series Analysis/
698.	(before adj2 after adj2 (study or studies or data)).ti,ab.
699.	exp case control study/
700.	case control*.ti,ab.
701.	Cross-sectional studies/
702.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
703.	or/63-76
704.	40 and (48 or 59 or 74)

Embase (Ovid) search terms

646.	exp atrial fibrillation/
647.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
648.	AF.ti,ab.
649.	1 or 2 or 3
650.	letter.pt. or letter/
651.	note.pt.
652.	editorial.pt.
653.	case report/ or case study/
654.	(letter or comment*).ti.
655.	or/5-9
656.	randomized controlled trial/ or random*.ti,ab.
657.	10 not 11
658.	animal/ not human/
659.	nonhuman/
660.	exp Animal Experiment/
661.	exp Experimental Animal/
662.	animal model/
663.	exp Rodent/
664.	(rat or rats or mouse or mice).ti.
665.	or/12-19
666.	4 not 20
667.	limit 21 to English language
668.	*Anticoagulant agent/

669.	Anticoagulat*.ti,ab.
670.	*Warfarin/
671.	*Apixaban/
672.	*Dabigatran/
673.	*Rivaroxaban/
674.	*Edoxaban/
675.	(warfarin or apixaban or dabigatran or rivaroxaban or edoxaban).ti,ab.
676.	*Coumarin derivative/
677.	(coumarins or coumadin*).ti,ab.
678.	*Antithrombin/ or *Blood clotting factor 10a inhibitor/
679.	(factor xa adj2 (antagonist* or inhibit*)).ti,ab.
680.	xabans.ti,ab.
681.	(vitamin k adj2 antagonist*).ti,ab.
682.	direct antithrombin*.ti,ab.
683.	direct thrombin* inhibit*.ti,ab.
684.	or/23-38
685.	22 and 39
686.	random*.ti,ab.
687.	factorial*.ti,ab.
688.	(crossover* or cross over*).ti,ab.
689.	((doubl* or singl*) adj blind*).ti,ab.
690.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
691.	crossover procedure/
692.	single blind procedure/
693.	randomized controlled trial/
694.	double blind procedure/
695.	or/41-49
696.	systematic review/
697.	Meta-Analysis/
698.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
699.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
700.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
701.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
702.	(search* adj4 literature).ab.
703.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
704.	cochrane.jw.
705.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
706.	or/51-60
707.	Clinical study/
708.	Observational study/
709.	family study/
710.	longitudinal study/
711.	retrospective study/

712.	prospective study/
713.	cohort analysis/
714.	follow-up/
715.	cohort*.ti,ab.
716.	69 and 70
717.	(cohort adj (study or studies or analys* or data)).ti,ab.
718.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
719.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
720.	(before adj2 after adj2 (study or studies or data)).ti,ab.
721.	exp case control study/
722.	case control*.ti,ab.
723.	cross-sectional study/
724.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
725.	or/65-71,74-82
726.	40 and (50 or 61 or 80)

Cochrane Library (Wiley) search terms

#206.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#207.	((atrial or atria or atrium or auricular) near/3 fibrillat*):ti,ab
#208.	AF:ti,ab
#209.	#1 or #2 or #3
#210.	MeSH descriptor: [Anticoagulants] this term only
#211.	Anticoagulant*.ti,ab
#212.	MeSH descriptor: [Warfarin] this term only
#213.	MeSH descriptor: [Dabigatran] this term only
#214.	MeSH descriptor: [Rivaroxaban] this term only
#215.	(warfarin or apixaban or dabigatran or rivaroxaban or edoxaban):ti,ab
#216.	MeSH descriptor: [Coumarins] this term only
#217.	(coumarins or coumadin*):ti,ab
#218.	MeSH descriptor: [Antithrombins] this term only
#219.	MeSH descriptor: [Factor Xa Inhibitors] this term only
#220.	(factor xa near/2 (antagonist* or inhibit*)):ti,ab
#221.	xabans:ti,ab
#222.	(vitamin k near/ antagonist*)ti,ab
#223.	direct antithrombin*.ti,ab
#224.	direct thrombin* inhibit*.ti,ab
#225.	(or #5-#19)
#226.	#4 and #20

Epistemonikos search terms

1.	(title:(atrial fibrillation OR "AF") OR abstract:(atrial fibrillation OR "AF")) OR (title:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*) OR abstract:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*))
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A.16 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 16: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

295.	exp atrial fibrillation/
296.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
297.	AF.ti,ab.
298.	1 or 2 or 3
299.	letter/
300.	editorial/
301.	news/
302.	exp historical article/
303.	Anecdotes as Topic/
304.	comment/
305.	case report/
306.	(letter or comment*).ti.
307.	or/5-12
308.	randomized controlled trial/ or random*.ti,ab.
309.	13 not 14
310.	animals/ not humans/
311.	exp Animals, Laboratory/
312.	exp Animal Experimentation/
313.	exp Models, Animal/
314.	exp Rodentia/
315.	(rat or rats or mouse or mice).ti.
316.	or/15-21
317.	4 not 22
318.	limit 23 to English language
319.	economics/
320.	value of life/
321.	exp "costs and cost analysis"/
322.	exp Economics, Hospital/

323.	exp Economics, medical/
324.	Economics, nursing/
325.	economics, pharmaceutical/
326.	exp "Fees and Charges"/
327.	exp budgets/
328.	budget*.ti,ab.
329.	cost*.ti.
330.	(economic* or pharmaco?economic*).ti.
331.	(price* or pricing*).ti,ab.
332.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
333.	(financ* or fee or fees).ti,ab.
334.	(value adj2 (money or monetary)).ti,ab.
335.	or/25-40
336.	24 and 41

Embase (Ovid) search terms

260.	exp atrial fibrillation/
261.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
262.	AF.ti,ab.
263.	1 or 2 or 3
264.	letter.pt. or letter/
265.	note.pt.
266.	editorial.pt.
267.	case report/ or case study/
268.	(letter or comment*).ti.
269.	or/5-9
270.	randomized controlled trial/ or random*.ti,ab.
271.	10 not 11
272.	animal/ not human/
273.	nonhuman/
274.	exp Animal Experiment/
275.	exp Experimental Animal/
276.	animal model/
277.	exp Rodent/
278.	(rat or rats or mouse or mice).ti.
279.	or/12-19
280.	4 not 20
281.	limit 21 to English language
282.	health economics/
283.	exp economic evaluation/
284.	exp health care cost/
285.	exp fee/
286.	budget/
287.	funding/

288.	budget*.ti,ab.
289.	cost*.ti.
290.	(economic* or pharmaco?economic*).ti.
291.	(price* or pricing*).ti,ab.
292.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
293.	(financ* or fee or fees).ti,ab.
294.	(value adj2 (money or monetary)).ti,ab.
295.	or/23-35
296.	22 and 36

NHS EED and HTA (CRD) search terms

#29.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#30.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#31.	(AF)
#32.	(#1 or #2 or #3)

Atrial Fibrillation Stopping Anticoagulation Search Strategy H

This literature search strategy was used for the following reviews:

- **What is the clinical and cost effectiveness of discontinuing anticoagulation in people whose atrial fibrillation has resolved?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.17 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 17: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies Observational studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None
Epistemonikos (Epistemonikos Foundation)	Inception – 31 December 2019	Systematic review studies

Medline (Ovid) search terms

705.	exp atrial fibrillation/
706.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
707.	AF.ti,ab.
708.	1 or 2 or 3
709.	letter/
710.	editorial/
711.	news/
712.	exp historical article/
713.	Anecdotes as Topic/
714.	comment/
715.	case report/
716.	(letter or comment*).ti.
717.	or/5-12

718.	randomized controlled trial/ or random*.ti,ab.
719.	13 not 14
720.	animals/ not humans/
721.	exp Animals, Laboratory/
722.	exp Animal Experimentation/
723.	exp Models, Animal/
724.	exp Rodentia/
725.	(rat or rats or mouse or mice).ti.
726.	or/15-21
727.	4 not 22
728.	limit 23 to English language
729.	Anticoagulants/
730.	Anticoagulat*.ti,ab.
731.	Warfarin/
732.	Dabigatran/
733.	Rivaroxaban/
734.	(warfarin or apixaban or dabigatran or rivaroxaban or edoxaban).ti,ab.
735.	Coumarins/
736.	(coumarins or coumadin*).ti,ab.
737.	Antithrombins/ or Factor Xa Inhibitors/
738.	(factor xa adj2 (antagonist* or inhibit*)).ti,ab.
739.	xabans.ti,ab.
740.	(vitamin k adj2 antagonist*).ti,ab.
741.	direct antithrombin*.ti,ab.
742.	direct thrombin* inhibit*.ti,ab.
743.	or/25-38
744.	24 and 39
745.	randomized controlled trial.pt.
746.	controlled clinical trial.pt.
747.	randomi#ed.ab.
748.	placebo.ab.
749.	randomly.ab.
750.	clinical trials as topic.sh.
751.	trial.ti.
752.	or/41-47
753.	Meta-Analysis/
754.	Meta-Analysis as Topic/
755.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
756.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
757.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
758.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
759.	(search* adj4 literature).ab.
760.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.

761.	cochrane.jw.
762.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
763.	or/49-58
764.	Epidemiologic studies/
765.	Observational study/
766.	exp Cohort studies/
767.	(cohort adj (study or studies or analys* or data)).ti,ab.
768.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
769.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
770.	Controlled Before-After Studies/
771.	Historically Controlled Study/
772.	Interrupted Time Series Analysis/
773.	(before adj2 after adj2 (study or studies or data)).ti,ab.
774.	exp case control study/
775.	case control*.ti,ab.
776.	Cross-sectional studies/
777.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
778.	or/63-76
779.	40 and (48 or 59 or 74)

Embase (Ovid) search terms

727.	exp atrial fibrillation/
728.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
729.	AF.ti,ab.
730.	1 or 2 or 3
731.	letter.pt. or letter/
732.	note.pt.
733.	editorial.pt.
734.	case report/ or case study/
735.	(letter or comment*).ti.
736.	or/5-9
737.	randomized controlled trial/ or random*.ti,ab.
738.	10 not 11
739.	animal/ not human/
740.	nonhuman/
741.	exp Animal Experiment/
742.	exp Experimental Animal/
743.	animal model/
744.	exp Rodent/
745.	(rat or rats or mouse or mice).ti.
746.	or/12-19
747.	4 not 20
748.	limit 21 to English language
749.	*Anticoagulant agent/

750.	Anticoagulat*.ti,ab.
751.	*Warfarin/
752.	*Apixaban/
753.	*Dabigatran/
754.	*Rivaroxaban/
755.	*Edoxaban/
756.	(warfarin or apixaban or dabigatran or rivaroxaban or edoxaban).ti,ab.
757.	*Coumarin derivative/
758.	(coumarins or coumadin*).ti,ab.
759.	*Antithrombin/ or *Blood clotting factor 10a inhibitor/
760.	(factor xa adj2 (antagonist* or inhibit*)).ti,ab.
761.	xabans.ti,ab.
762.	(vitamin k adj2 antagonist*).ti,ab.
763.	direct antithrombin*.ti,ab.
764.	direct thrombin* inhibit*.ti,ab.
765.	or/23-38
766.	22 and 39
767.	random*.ti,ab.
768.	factorial*.ti,ab.
769.	(crossover* or cross over*).ti,ab.
770.	((doubl* or singl*) adj blind*).ti,ab.
771.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
772.	crossover procedure/
773.	single blind procedure/
774.	randomized controlled trial/
775.	double blind procedure/
776.	or/41-49
777.	systematic review/
778.	Meta-Analysis/
779.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
780.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
781.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
782.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
783.	(search* adj4 literature).ab.
784.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
785.	cochrane.jw.
786.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
787.	or/51-60
788.	Clinical study/
789.	Observational study/
790.	family study/
791.	longitudinal study/
792.	retrospective study/

793.	prospective study/
794.	cohort analysis/
795.	follow-up/
796.	cohort*.ti,ab.
797.	69 and 70
798.	(cohort adj (study or studies or analys* or data)).ti,ab.
799.	((follow up or observational or uncontrolled or non randomi#ed or epidemiologic*) adj (study or studies or data)).ti,ab.
800.	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort* or data)).ti,ab.
801.	(before adj2 after adj2 (study or studies or data)).ti,ab.
802.	exp case control study/
803.	case control*.ti,ab.
804.	cross-sectional study/
805.	(cross sectional and (study or studies or review or analys* or cohort* or data)).ti,ab.
806.	or/65-71,74-82
807.	40 and (50 or 61 or 80)

Cochrane Library (Wiley) search terms

#227.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#228.	((atrial or atria or atrium or auricular) near/3 fibrillat*):ti,ab
#229.	AF:ti,ab
#230.	#1 or #2 or #3
#231.	MeSH descriptor: [Anticoagulants] this term only
#232.	Anticoagulant*.ti,ab
#233.	MeSH descriptor: [Warfarin] this term only
#234.	MeSH descriptor: [Dabigatran] this term only
#235.	MeSH descriptor: [Rivaroxaban] this term only
#236.	(warfarin or apixaban or dabigatran or rivaroxaban or edoxaban):ti,ab
#237.	MeSH descriptor: [Coumarins] this term only
#238.	(coumarins or coumadin*):ti,ab
#239.	MeSH descriptor: [Antithrombins] this term only
#240.	MeSH descriptor: [Factor Xa Inhibitors] this term only
#241.	(factor xa near/2 (antagonist* or inhibit*)):ti,ab
#242.	xabans:ti,ab
#243.	(vitamin k near/ antagonist*)ti,ab
#244.	direct antithrombin*.ti,ab
#245.	direct thrombin* inhibit*.ti,ab
#246.	(or #5-#19)
#247.	#4 and #20

Epistemonikos search terms

2.	(title:(atrial fibrillation OR "AF") OR abstract:(atrial fibrillation OR "AF")) OR (title:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*) OR abstract:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*))
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A.18 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 18: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

337.	exp atrial fibrillation/
338.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
339.	AF.ti,ab.
340.	1 or 2 or 3
341.	letter/
342.	editorial/
343.	news/
344.	exp historical article/
345.	Anecdotes as Topic/
346.	comment/
347.	case report/
348.	(letter or comment*).ti.
349.	or/5-12
350.	randomized controlled trial/ or random*.ti,ab.
351.	13 not 14
352.	animals/ not humans/
353.	exp Animals, Laboratory/
354.	exp Animal Experimentation/
355.	exp Models, Animal/
356.	exp Rodentia/
357.	(rat or rats or mouse or mice).ti.
358.	or/15-21
359.	4 not 22
360.	limit 23 to English language
361.	economics/
362.	value of life/
363.	exp "costs and cost analysis"/
364.	exp Economics, Hospital/

365.	exp Economics, medical/
366.	Economics, nursing/
367.	economics, pharmaceutical/
368.	exp "Fees and Charges"/
369.	exp budgets/
370.	budget*.ti,ab.
371.	cost*.ti.
372.	(economic* or pharmaco?economic*).ti.
373.	(price* or pricing*).ti,ab.
374.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
375.	(financ* or fee or fees).ti,ab.
376.	(value adj2 (money or monetary)).ti,ab.
377.	or/25-40
378.	24 and 41

Embase (Ovid) search terms

297.	exp atrial fibrillation/
298.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
299.	AF.ti,ab.
300.	1 or 2 or 3
301.	letter.pt. or letter/
302.	note.pt.
303.	editorial.pt.
304.	case report/ or case study/
305.	(letter or comment*).ti.
306.	or/5-9
307.	randomized controlled trial/ or random*.ti,ab.
308.	10 not 11
309.	animal/ not human/
310.	nonhuman/
311.	exp Animal Experiment/
312.	exp Experimental Animal/
313.	animal model/
314.	exp Rodent/
315.	(rat or rats or mouse or mice).ti.
316.	or/12-19
317.	4 not 20
318.	limit 21 to English language
319.	health economics/
320.	exp economic evaluation/
321.	exp health care cost/
322.	exp fee/
323.	budget/
324.	funding/

325.	budget*.ti,ab.
326.	cost*.ti.
327.	(economic* or pharmaco?economic*).ti.
328.	(price* or pricing*).ti,ab.
329.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
330.	(financ* or fee or fees).ti,ab.
331.	(value adj2 (money or monetary)).ti,ab.
332.	or/23-35
333.	22 and 36

NHS EED and HTA (CRD) search terms

#33.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#34.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#35.	(AF)
#36.	(#1 or #2 or #3)

Atrial Fibrillation Non-Ablative Rate Control Therapies Search Strategy I

This literature search strategy was used for the following reviews;

- **What is the clinical and cost effectiveness of different non-ablative rate control therapies in people with atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.19 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 19: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None
Epistemonikos (Epistemonikos Foundation)	Inception – 31 December 2019	Systematic review studies

Medline (Ovid) search terms

780.	exp atrial fibrillation/
781.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
782.	AF.ti,ab.
783.	1 or 2 or 3
784.	letter/
785.	editorial/
786.	news/
787.	exp historical article/
788.	Anecdotes as Topic/
789.	comment/
790.	case report/
791.	(letter or comment*).ti.
792.	or/5-12
793.	randomized controlled trial/ or random*.ti,ab.
794.	13 not 14

795.	animals/ not humans/
796.	exp Animals, Laboratory/
797.	exp Animal Experimentation/
798.	exp Models, Animal/
799.	exp Rodentia/
800.	(rat or rats or mouse or mice).ti.
801.	or/15-21
802.	4 not 22
803.	limit 23 to English language
804.	exp adrenergic beta-antagonists/
805.	(propranolol or acebutolol or atenolol or bisoprolol or celiprolol or co-tenidone or esmolol or metoprolol or nadolol or nebivolol or oxprenolol or pindolol or sotalol or timolol or carvedilol or labetalol).ti,ab.
806.	(beta adj3 block*).ti,ab.
807.	((beta-adrenoceptor or b-adrenoceptor or beta-adrenergic) adj (block* or antagonist*).ti,ab.
808.	(b adj3 block*).ti,ab.
809.	(beta adj2 antagonist*).ti,ab.
810.	calcium channel blockers/
811.	((channel or calcium or ca) adj3 block*).ti,ab.
812.	(ca2* or CCB or CCBs).ti,ab.
813.	(diltiazem or verapamil).ti,ab.
814.	Digoxin/
815.	Digoxin.ti,ab.
816.	exp Amiodarone/
817.	Amiodarone.ti,ab.
818.	(ventricular adj3 (rate or control or limit*) adj3 (medicine* or medicat* or drug*).ti,ab.
819.	(Rate adj2 (control or limit*) adj2 (medicine* or medicat* or drug*).ti,ab.
820.	or/25-40
821.	24 and 41
822.	randomized controlled trial.pt.
823.	controlled clinical trial.pt.
824.	randomi#ed.ab.
825.	placebo.ab.
826.	randomly.ab.
827.	clinical trials as topic.sh.
828.	trial.ti.
829.	or/43-49
830.	Meta-Analysis/
831.	Meta-Analysis as Topic/
832.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
833.	((systematic* or evidence*) adj3 (review* or overview*).ti,ab.
834.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
835.	(search strategy or search criteria or systematic search or study selection or data

	extraction).ab.
836.	(search* adj4 literature).ab.
837.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
838.	cochrane.jw.
839.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
840.	or/51-60
841.	42 and (50 or 61)

Embase (Ovid) search terms

808.	exp atrial fibrillation/
809.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
810.	AF.ti,ab.
811.	1 or 2 or 3
812.	letter.pt. or letter/
813.	note.pt.
814.	editorial.pt.
815.	case report/ or case study/
816.	(letter or comment*).ti.
817.	or/5-9
818.	randomized controlled trial/ or random*.ti,ab.
819.	10 not 11
820.	animal/ not human/
821.	nonhuman/
822.	exp Animal Experiment/
823.	exp Experimental Animal/
824.	animal model/
825.	exp Rodent/
826.	(rat or rats or mouse or mice).ti.
827.	or/12-19
828.	4 not 20
829.	limit 21 to English language
830.	exp *beta adrenergic receptor blocking agent/
831.	(propranolol or acebutolol or atenolol or bisoprolol or celiprolol or co-tenidone or esmolol or metoprolol or nadolol or nebivolol or oxprenolol or pindolol or sotalol or timolol or carvedilol or labetalol).ti,ab.
832.	(beta adj3 block*).ti,ab.
833.	((beta-adrenoceptor or b-adrenoceptor or beta-adrenergic) adj (block* or antagonist*).ti,ab.
834.	(b adj3 block*).ti,ab.
835.	(beta adj2 antagonist*).ti,ab.
836.	*calcium channel blocking agent/
837.	((channel or calcium or ca) adj3 block*).ti,ab.
838.	(ca2* or CCB or CCBs).ti,ab.
839.	(diltiazem or verapamil).ti,ab.
840.	*digoxin/
841.	Digoxin.ti,ab.

842.	*amiodarone/
843.	(ventricular adj3 (rate or control or limit*) adj3 (medicine* or medicat* or drug*)).ti,ab.
844.	(Rate adj2 (control or limit*) adj2 (medicine* or medicat* or drug*)).ti,ab.
845.	or/23-37
846.	22 and 38
847.	random*.ti,ab.
848.	factorial*.ti,ab.
849.	(crossover* or cross over*).ti,ab.
850.	((doubl* or singl*) adj blind*).ti,ab.
851.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
852.	crossover procedure/
853.	single blind procedure/
854.	randomized controlled trial/
855.	double blind procedure/
856.	or/40-48
857.	systematic review/
858.	Meta-Analysis/
859.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
860.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
861.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
862.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
863.	(search* adj4 literature).ab.
864.	(medline or pubmed or cochrane or embase or psychlit or psychlit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
865.	cochrane.jw.
866.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
867.	or/50-59
868.	39 and (49 or 60)

Cochrane Library (Wiley) search terms

#248.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#249.	((atrial or atria or atrium or auricular) near/3 fibrillat*).ti,ab
#250.	AF:ti,ab
#251.	#1 or #2 or #3
#252.	MeSH descriptor: [Adrenergic beta-Antagonists] explode all trees
#253.	(propranolol or acebutolol or atenolol or bisoprolol or celiprolol or co-tenidone or esmolol or metoprolol or nadolol or nebivolol or oxprenolol or pindolol or sotalol or timolol or carvedilol or labetalol):ti,ab
#254.	(beta near/3 block*):ti,ab
#255.	((beta-adrenoceptor or b-adrenoceptor or beta-adrenergic) next (block* or antagonist*)):ti,ab
#256.	(b near/3 block*):ti,ab
#257.	(beta near/2 antagonist*):ti,ab
#258.	MeSH descriptor: [Calcium Channel Blockers] this term only

#259.	((channel or calcium or ca) near/3 block*):ti,ab
#260.	(ca2* or CCB or CCBs).ti,ab
#261.	(diltiazem or verapamil):ti,ab
#262.	MeSH descriptor: [Digoxin] this term only
#263.	Digoxin:ti,ab
#264.	MeSH descriptor: [Amiodarone] explode all trees
#265.	Amiodarone:ti,ab
#266.	(ventricular near/3 (rate or control or limit*) near/3 (medicine* or medicat* or drug*)):ti,ab
#267.	(Rate near/2 (control or limit*) near/2 (medicine* or medicat* or drug*)):ti,ab
#268.	(or #5-#20)
#269.	#4 and #21

Epistemonikos search terms

3.	(title:(atrial fibrillation OR "AF") OR abstract:(atrial fibrillation OR "AF")) OR (title:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*) OR abstract:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*))
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A.20 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 20: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

379.	exp atrial fibrillation/
380.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
381.	AF.ti,ab.
382.	1 or 2 or 3
383.	letter/
384.	editorial/
385.	news/
386.	exp historical article/
387.	Anecdotes as Topic/
388.	comment/
389.	case report/

390.	(letter or comment*).ti.
391.	or/5-12
392.	randomized controlled trial/ or random*.ti,ab.
393.	13 not 14
394.	animals/ not humans/
395.	exp Animals, Laboratory/
396.	exp Animal Experimentation/
397.	exp Models, Animal/
398.	exp Rodentia/
399.	(rat or rats or mouse or mice).ti.
400.	or/15-21
401.	4 not 22
402.	limit 23 to English language
403.	economics/
404.	value of life/
405.	exp "costs and cost analysis"/
406.	exp Economics, Hospital/
407.	exp Economics, medical/
408.	Economics, nursing/
409.	economics, pharmaceutical/
410.	exp "Fees and Charges"/
411.	exp budgets/
412.	budget*.ti,ab.
413.	cost*.ti.
414.	(economic* or pharmaco?economic*).ti.
415.	(price* or pricing*).ti,ab.
416.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
417.	(financ* or fee or fees).ti,ab.
418.	(value adj2 (money or monetary)).ti,ab.
419.	or/25-40
420.	24 and 41

Embase (Ovid) search terms

334.	exp atrial fibrillation/
335.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
336.	AF.ti,ab.
337.	1 or 2 or 3
338.	letter.pt. or letter/
339.	note.pt.
340.	editorial.pt.
341.	case report/ or case study/
342.	(letter or comment*).ti.
343.	or/5-9
344.	randomized controlled trial/ or random*.ti,ab.

345.	10 not 11
346.	animal/ not human/
347.	nonhuman/
348.	exp Animal Experiment/
349.	exp Experimental Animal/
350.	animal model/
351.	exp Rodent/
352.	(rat or rats or mouse or mice).ti.
353.	or/12-19
354.	4 not 20
355.	limit 21 to English language
356.	health economics/
357.	exp economic evaluation/
358.	exp health care cost/
359.	exp fee/
360.	budget/
361.	funding/
362.	budget*.ti,ab.
363.	cost*.ti.
364.	(economic* or pharmaco?economic*).ti.
365.	(price* or pricing*).ti,ab.
366.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
367.	(financ* or fee or fees).ti,ab.
368.	(value adj2 (money or monetary)).ti,ab.
369.	or/23-35
370.	22 and 36

NHS EED and HTA (CRD) search terms

#37.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#38.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#39.	(AF)
#40.	(#1 or #2 or #3)

Atrial Fibrillation Ablation Search Strategy J1

This literature search strategy was used for the following reviews:

- **What is the clinical and cost effectiveness of different ablative therapies in people with atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.21 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 21: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
Embase (OVID)	1974– 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None
Epistemonikos (Epistemonikos Foundation)	Inception – 31 December 2019	Systematic review studies

Medline (Ovid) search terms

842.	exp atrial fibrillation/
843.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
844.	AF.ti,ab.
845.	1 or 2 or 3
846.	letter/
847.	editorial/
848.	news/
849.	exp historical article/
850.	Anecdotes as Topic/
851.	comment/
852.	case report/
853.	(letter or comment*).ti.
854.	or/5-12
855.	randomized controlled trial/ or random*.ti,ab.
856.	13 not 14

857.	animals/ not humans/
858.	exp Animals, Laboratory/
859.	exp Animal Experimentation/
860.	exp Models, Animal/
861.	exp Rodentia/
862.	(rat or rats or mouse or mice).ti.
863.	or/15-21
864.	4 not 22
865.	limit 23 to English language
866.	exp Ablation Techniques/
867.	ablat*.ti,ab.
868.	(cryoablat* or cryoballoon* or cryo balloon*).ti,ab.
869.	phased array.ti,ab.
870.	*Pulmonary Veins/
871.	((pulmonary vein adj2 isolation) or PVI or PVAI).ti,ab.
872.	radiofrequency therapy/
873.	((radiofrequenc* or radio frequenc* or RF or hybrid) adj2 (therap* or surg* or procedure*).ti,ab.
874.	"point by point".ti,ab.
875.	Lasers/
876.	laser*.ti,ab.
877.	(maze adj2 (procedure* or surg*).ti,ab.
878.	cox-maze.ti,ab.
879.	or/25-37
880.	24 and 38
881.	randomized controlled trial.pt.
882.	controlled clinical trial.pt.
883.	randomi#ed.ab.
884.	placebo.ab.
885.	randomly.ab.
886.	clinical trials as topic.sh.
887.	trial.ti.
888.	or/40-46
889.	Meta-Analysis/
890.	Meta-Analysis as Topic/
891.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
892.	((systematic* or evidence*) adj3 (review* or overview*).ti,ab.
893.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
894.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
895.	(search* adj4 literature).ab.
896.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
897.	cochrane.jw.
898.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.

899.	or/48-57
900.	39 and (47 or 58)

Embase (Ovid) search terms

869.	exp atrial fibrillation/
870.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
871.	AF.ti,ab.
872.	1 or 2 or 3
873.	letter.pt. or letter/
874.	note.pt.
875.	editorial.pt.
876.	case report/ or case study/
877.	(letter or comment*).ti.
878.	or/5-9
879.	randomized controlled trial/ or random*.ti,ab.
880.	10 not 11
881.	animal/ not human/
882.	nonhuman/
883.	exp Animal Experiment/
884.	exp Experimental Animal/
885.	animal model/
886.	exp Rodent/
887.	(rat or rats or mouse or mice).ti.
888.	or/12-19
889.	4 not 20
890.	limit 21 to English language
891.	exp ablation therapy/
892.	ablat*.ti,ab.
893.	(cryoablat* or cryoballoon* or cryo balloon*).ti,ab.
894.	phased array.ti,ab.
895.	pulmonary vein isolation/ or pulmonary vein/
896.	((pulmonary vein adj2 isolation) or PVI or PVAI).ti,ab.
897.	catheter ablation/
898.	((radiofrequenc* or radio frequenc* or RF or hybrid) adj2 (therap* or surg* or procedure*).ti,ab.
899.	"point by point".ti,ab.
900.	laser/ or low level laser therapy/ or laser surgery/
901.	laser*.ti,ab.
902.	(maze adj2 (procedure* or surg*).ti,ab.
903.	cox-maze.ti,ab.
904.	or/23-35
905.	22 and 36
906.	random*.ti,ab.
907.	factorial*.ti,ab.
908.	(crossover* or cross over*).ti,ab.
909.	((doubl* or singl*) adj blind*).ti,ab.

910.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
911.	crossover procedure/
912.	single blind procedure/
913.	randomized controlled trial/
914.	double blind procedure/
915.	or/38-46
916.	systematic review/
917.	Meta-Analysis/
918.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
919.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
920.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
921.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
922.	(search* adj4 literature).ab.
923.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
924.	cochrane.jw.
925.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
926.	or/48-57
927.	37 and (47 or 58)

Cochrane Library (Wiley) search terms

#270.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#271.	((atrial or atria or atrium or auricular) near/3 fibrillat*).ti,ab
#272.	AF:ti,ab
#273.	#1 or #2 or #3
#274.	MeSH descriptor: [Ablation Techniques] explode all trees
#275.	ablat*:ti,ab
#276.	(cryoablat* or cryoballoon* or cryo balloon*):ti,ab
#277.	phased array:ti,ab
#278.	MeSH descriptor: [Pulmonary Veins] this term only
#279.	"pulmonary vein" near/2 isolation:ti,ab
#280.	(PVI or PVAI):ti,ab
#281.	MeSH descriptor: [Radiofrequency Therapy] this term only
#282.	((radiofrequenc* or radio frequenc* or RF or hybrid) near/2 (therap* or surg* or procedure*)):ti,ab
#283.	"point by point":ti,ab
#284.	MeSH descriptor: [Lasers] this term only
#285.	laser*:ti,ab
#286.	(maze near/2 (procedure* or surg*)):ti,ab
#287.	cox-maze:ti,ab
#288.	(or #5-#18)
#289.	#4 and #19

Epistemonikos search terms

4.	(title:(atrial fibrillation OR "AF") OR abstract:(atrial fibrillation OR "AF")) OR
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	(title:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*) OR abstract:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*))
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A.22 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 22: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies Quality of life studies
Embase	2003– 31 December 2019	Exclusions Health economics studies Quality of life studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

421.	exp atrial fibrillation/
422.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
423.	AF.ti,ab.
424.	1 or 2 or 3
425.	letter/
426.	editorial/
427.	news/
428.	exp historical article/
429.	Anecdotes as Topic/
430.	comment/
431.	case report/
432.	(letter or comment*).ti.
433.	or/5-12
434.	randomized controlled trial/ or random*.ti,ab.
435.	13 not 14
436.	animals/ not humans/
437.	exp Animals, Laboratory/
438.	exp Animal Experimentation/
439.	exp Models, Animal/
440.	exp Rodentia/
441.	(rat or rats or mouse or mice).ti.
442.	or/15-21
443.	4 not 22

444.	limit 23 to English language
445.	economics/
446.	value of life/
447.	exp "costs and cost analysis"/
448.	exp Economics, Hospital/
449.	exp Economics, medical/
450.	Economics, nursing/
451.	economics, pharmaceutical/
452.	exp "Fees and Charges"/
453.	exp budgets/
454.	budget*.ti,ab.
455.	cost*.ti.
456.	(economic* or pharmaco?economic*).ti.
457.	(price* or pricing*).ti,ab.
458.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
459.	(financ* or fee or fees).ti,ab.
460.	(value adj2 (money or monetary)).ti,ab.
461.	or/25-40
462.	quality-adjusted life years/
463.	sickness impact profile/
464.	(quality adj2 (wellbeing or well being)).ti,ab.
465.	sickness impact profile.ti,ab.
466.	disability adjusted life.ti,ab.
467.	(qal* or qtime* or qwb* or daly*).ti,ab.
468.	(euroqol* or eq5d* or eq 5*).ti,ab.
469.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
470.	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
471.	(hui or hui1 or hui2 or hui3).ti,ab.
472.	(health* year* equivalent* or hye or hyes).ti,ab.
473.	discrete choice*.ti,ab.
474.	rosser.ti,ab.
475.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
476.	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
477.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
478.	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
479.	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
480.	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
481.	or/42-60
482.	24 and (41 or 61)

Embase (Ovid) search terms

371.	exp atrial fibrillation/
372.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
373.	AF.ti,ab.

374.	1 or 2 or 3
375.	letter.pt. or letter/
376.	note.pt.
377.	editorial.pt.
378.	case report/ or case study/
379.	(letter or comment*).ti.
380.	or/5-9
381.	randomized controlled trial/ or random*.ti,ab.
382.	10 not 11
383.	animal/ not human/
384.	nonhuman/
385.	exp Animal Experiment/
386.	exp Experimental Animal/
387.	animal model/
388.	exp Rodent/
389.	(rat or rats or mouse or mice).ti.
390.	or/12-19
391.	4 not 20
392.	limit 21 to English language
393.	health economics/
394.	exp economic evaluation/
395.	exp health care cost/
396.	exp fee/
397.	budget/
398.	funding/
399.	budget*.ti,ab.
400.	cost*.ti.
401.	(economic* or pharmaco?economic*).ti.
402.	(price* or pricing*).ti,ab.
403.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
404.	(financ* or fee or fees).ti,ab.
405.	(value adj2 (money or monetary)).ti,ab.
406.	or/23-35
407.	quality-adjusted life years/
408.	"quality of life index"/
409.	short form 12/ or short form 20/ or short form 36/ or short form 8/
410.	sickness impact profile/
411.	(quality adj2 (wellbeing or well being)).ti,ab.
412.	sickness impact profile.ti,ab.
413.	disability adjusted life.ti,ab.
414.	(qal* or qtime* or qwb* or daly*).ti,ab.
415.	(euroqol* or eq5d* or eq 5*).ti,ab.
416.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.

417.	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
418.	(hui or hui1 or hui2 or hui3).ti,ab.
419.	(health* year* equivalent* or hye or hyes).ti,ab.
420.	discrete choice*.ti,ab.
421.	rosser.ti,ab.
422.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
423.	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
424.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
425.	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
426.	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
427.	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
428.	or/37-57
429.	22 and (36 or 58)

NHS EED and HTA (CRD) search terms

#41.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#42.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#43.	(AF)
#44.	(#1 or #2 or #3)

Atrial Fibrillation Ablation NMA Search Strategy (J2)

This literature search strategy was used for the following reviews:

- **Network meta-analysis: What is the clinical and cost effectiveness of different ablative therapies in people with paroxysmal atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.23 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 23: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
Embase (OVID)	1974– 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None
Epistemonikos (Epistemonikos Foundation)	Inception – 31 December 2019	Systematic review studies

Medline (Ovid) search terms

901.	exp atrial fibrillation/
902.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
903.	AF.ti,ab.
904.	1 or 2 or 3
905.	letter/
906.	editorial/
907.	news/
908.	exp historical article/
909.	Anecdotes as Topic/
910.	comment/
911.	case report/
912.	(letter or comment*).ti.
913.	or/5-12
914.	randomized controlled trial/ or random*.ti,ab.
915.	13 not 14

916.	animals/ not humans/
917.	exp Animals, Laboratory/
918.	exp Animal Experimentation/
919.	exp Models, Animal/
920.	exp Rodentia/
921.	(rat or rats or mouse or mice).ti.
922.	or/15-21
923.	4 not 22
924.	limit 23 to English language
925.	exp Ablation Techniques/
926.	ablat*.ti,ab.
927.	(cryoablat* or cryoballoon* or cryo balloon*).ti,ab.
928.	phased array.ti,ab.
929.	*Pulmonary Veins/
930.	((pulmonary vein adj2 isolation) or PVI or PVAI).ti,ab.
931.	radiofrequency therapy/
932.	((radiofrequenc* or radio frequenc* or RF or hybrid) adj2 (therap* or surg* or procedure*).ti,ab.
933.	"point by point".ti,ab.
934.	Lasers/
935.	laser*.ti,ab.
936.	(maze adj2 (procedure* or surg*).ti,ab.
937.	cox-maze.ti,ab.
938.	or/25-37
939.	24 and 38
940.	randomized controlled trial.pt.
941.	controlled clinical trial.pt.
942.	randomi#ed.ab.
943.	placebo.ab.
944.	randomly.ab.
945.	clinical trials as topic.sh.
946.	trial.ti.
947.	or/40-46
948.	Meta-Analysis/
949.	Meta-Analysis as Topic/
950.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
951.	((systematic* or evidence*) adj3 (review* or overview*).ti,ab.
952.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
953.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
954.	(search* adj4 literature).ab.
955.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
956.	cochrane.jw.
957.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.

958.	or/48-57
959.	39 and (47 or 58)

Embase (Ovid) search terms

928.	exp atrial fibrillation/
929.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
930.	AF.ti,ab.
931.	1 or 2 or 3
932.	letter.pt. or letter/
933.	note.pt.
934.	editorial.pt.
935.	case report/ or case study/
936.	(letter or comment*).ti.
937.	or/5-9
938.	randomized controlled trial/ or random*.ti,ab.
939.	10 not 11
940.	animal/ not human/
941.	nonhuman/
942.	exp Animal Experiment/
943.	exp Experimental Animal/
944.	animal model/
945.	exp Rodent/
946.	(rat or rats or mouse or mice).ti.
947.	or/12-19
948.	4 not 20
949.	limit 21 to English language
950.	exp ablation therapy/
951.	ablat*.ti,ab.
952.	(cryoablat* or cryoballoon* or cryo balloon*).ti,ab.
953.	phased array.ti,ab.
954.	pulmonary vein isolation/ or pulmonary vein/
955.	((pulmonary vein adj2 isolation) or PVI or PVAI).ti,ab.
956.	catheter ablation/
957.	((radiofrequenc* or radio frequenc* or RF or hybrid) adj2 (therap* or surg* or procedure*).ti,ab.
958.	"point by point".ti,ab.
959.	laser/ or low level laser therapy/ or laser surgery/
960.	laser*.ti,ab.
961.	(maze adj2 (procedure* or surg*).ti,ab.
962.	cox-maze.ti,ab.
963.	or/23-35
964.	22 and 36
965.	random*.ti,ab.
966.	factorial*.ti,ab.
967.	(crossover* or cross over*).ti,ab.
968.	((doubl* or singl*) adj blind*).ti,ab.

969.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
970.	crossover procedure/
971.	single blind procedure/
972.	randomized controlled trial/
973.	double blind procedure/
974.	or/38-46
975.	systematic review/
976.	Meta-Analysis/
977.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
978.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
979.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
980.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
981.	(search* adj4 literature).ab.
982.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
983.	cochrane.jw.
984.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
985.	or/48-57
986.	37 and (47 or 58)

Cochrane Library (Wiley) search terms

#290.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#291.	((atrial or atria or atrium or auricular) near/3 fibrillat*):ti,ab
#292.	AF:ti,ab
#293.	#1 or #2 or #3
#294.	MeSH descriptor: [Ablation Techniques] explode all trees
#295.	ablat*:ti,ab
#296.	(cryoablat* or cryoballoon* or cryo balloon*):ti,ab
#297.	phased array:ti,ab
#298.	MeSH descriptor: [Pulmonary Veins] this term only
#299.	"pulmonary vein" near/2 isolation:ti,ab
#300.	(PVI or PVAI):ti,ab
#301.	MeSH descriptor: [Radiofrequency Therapy] this term only
#302.	((radiofrequenc* or radio frequenc* or RF or hybrid) near/2 (therap* or surg* or procedure*)):ti,ab
#303.	"point by point":ti,ab
#304.	MeSH descriptor: [Lasers] this term only
#305.	laser*:ti,ab
#306.	(maze near/2 (procedure* or surg*)):ti,ab
#307.	cox-maze:ti,ab
#308.	(or #5-#18)
#309.	#4 and #19

Epistemonikos search terms

5.	(title:(atrial fibrillation OR "AF") OR abstract:(atrial fibrillation OR "AF")) OR
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	(title:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*) OR abstract:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*))
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A.24 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 24: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies Quality of life studies
Embase	2003– 31 December 2019	Exclusions Health economics studies Quality of life studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

483.	exp atrial fibrillation/
484.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
485.	AF.ti,ab.
486.	1 or 2 or 3
487.	letter/
488.	editorial/
489.	news/
490.	exp historical article/
491.	Anecdotes as Topic/
492.	comment/
493.	case report/
494.	(letter or comment*).ti.
495.	or/5-12
496.	randomized controlled trial/ or random*.ti,ab.
497.	13 not 14
498.	animals/ not humans/
499.	exp Animals, Laboratory/
500.	exp Animal Experimentation/
501.	exp Models, Animal/
502.	exp Rodentia/
503.	(rat or rats or mouse or mice).ti.
504.	or/15-21
505.	4 not 22

506.	limit 23 to English language
507.	economics/
508.	value of life/
509.	exp "costs and cost analysis"/
510.	exp Economics, Hospital/
511.	exp Economics, medical/
512.	Economics, nursing/
513.	economics, pharmaceutical/
514.	exp "Fees and Charges"/
515.	exp budgets/
516.	budget*.ti,ab.
517.	cost*.ti.
518.	(economic* or pharmaco?economic*).ti.
519.	(price* or pricing*).ti,ab.
520.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
521.	(financ* or fee or fees).ti,ab.
522.	(value adj2 (money or monetary)).ti,ab.
523.	or/25-40
524.	quality-adjusted life years/
525.	sickness impact profile/
526.	(quality adj2 (wellbeing or well being)).ti,ab.
527.	sickness impact profile.ti,ab.
528.	disability adjusted life.ti,ab.
529.	(qal* or qtime* or qwb* or daly*).ti,ab.
530.	(euroqol* or eq5d* or eq 5*).ti,ab.
531.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
532.	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
533.	(hui or hui1 or hui2 or hui3).ti,ab.
534.	(health* year* equivalent* or hye or hyes).ti,ab.
535.	discrete choice*.ti,ab.
536.	rosser.ti,ab.
537.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
538.	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
539.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
540.	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
541.	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
542.	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
543.	or/42-60
544.	24 and (41 or 61)

Embase (Ovid) search terms

430.	exp atrial fibrillation/
431.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
432.	AF.ti,ab.

433.	1 or 2 or 3
434.	letter.pt. or letter/
435.	note.pt.
436.	editorial.pt.
437.	case report/ or case study/
438.	(letter or comment*).ti.
439.	or/5-9
440.	randomized controlled trial/ or random*.ti,ab.
441.	10 not 11
442.	animal/ not human/
443.	nonhuman/
444.	exp Animal Experiment/
445.	exp Experimental Animal/
446.	animal model/
447.	exp Rodent/
448.	(rat or rats or mouse or mice).ti.
449.	or/12-19
450.	4 not 20
451.	limit 21 to English language
452.	health economics/
453.	exp economic evaluation/
454.	exp health care cost/
455.	exp fee/
456.	budget/
457.	funding/
458.	budget*.ti,ab.
459.	cost*.ti.
460.	(economic* or pharmaco?economic*).ti.
461.	(price* or pricing*).ti,ab.
462.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
463.	(financ* or fee or fees).ti,ab.
464.	(value adj2 (money or monetary)).ti,ab.
465.	or/23-35
466.	quality-adjusted life years/
467.	"quality of life index"/
468.	short form 12/ or short form 20/ or short form 36/ or short form 8/
469.	sickness impact profile/
470.	(quality adj2 (wellbeing or well being)).ti,ab.
471.	sickness impact profile.ti,ab.
472.	disability adjusted life.ti,ab.
473.	(qal* or qtime* or qwb* or daly*).ti,ab.
474.	(euroqol* or eq5d* or eq 5*).ti,ab.
475.	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.

476.	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
477.	(hui or hui1 or hui2 or hui3).ti,ab.
478.	(health* year* equivalent* or hye or hyes).ti,ab.
479.	discrete choice*.ti,ab.
480.	rosser.ti,ab.
481.	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
482.	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
483.	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
484.	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
485.	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
486.	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
487.	or/37-57
488.	22 and (36 or 58)

NHS EED and HTA (CRD) search terms

#45.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#46.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#47.	(AF)
#48.	(#1 or #2 or #3)

Atrial Fibrillation Antiarrhythmic Drugs Search Strategy K

This literature search strategy was used for the following reviews;

- **What is the clinical and cost effectiveness of short-term (<6 months) antiarrhythmic drugs following ablation for preventing recurrence of atrial fibrillation?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.25 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 25: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
Embase (OVID)	1974– 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None
Epistemonikos (Epistemonikos Foundation)	Inception – 31 December 2019	Systematic review studies

Medline (Ovid) search terms

960.	exp atrial fibrillation/
961.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
962.	AF.ti,ab.
963.	1 or 2 or 3
964.	letter/
965.	editorial/
966.	news/
967.	exp historical article/
968.	Anecdotes as Topic/
969.	comment/
970.	case report/
971.	(letter or comment*).ti.
972.	or/5-12
973.	randomized controlled trial/ or random*.ti,ab.

974.	13 not 14
975.	animals/ not humans/
976.	exp Animals, Laboratory/
977.	exp Animal Experimentation/
978.	exp Models, Animal/
979.	exp Rodentia/
980.	(rat or rats or mouse or mice).ti.
981.	or/15-21
982.	4 not 22
983.	limit 23 to English language
984.	exp Ablation Techniques/
985.	ablat*.ti,ab.
986.	(cryoablat* or cryoballoon* or cryo balloon*).ti,ab.
987.	phased array.ti,ab.
988.	*Pulmonary Veins/
989.	((pulmonary vein adj2 isolation) or PVI or PVAI).ti,ab.
990.	radiofrequency therapy/
991.	((radiofrequenc* or radio frequenc* or RF or hybrid) adj2 (therap* or surg* or procedure*)).ti,ab.
992.	"point by point".ti,ab.
993.	Lasers/
994.	laser*.ti,ab.
995.	(maze adj2 (procedure* or surg*)).ti,ab.
996.	cox-maze.ti,ab.
997.	or/25-37
998.	24 and 38
999.	randomized controlled trial.pt.
1000.	controlled clinical trial.pt.
1001.	randomi#ed.ab.
1002.	placebo.ab.
1003.	randomly.ab.
1004.	clinical trials as topic.sh.
1005.	trial.ti.
1006.	or/40-46
1007.	Meta-Analysis/
1008.	Meta-Analysis as Topic/
1009.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
1010.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
1011.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
1012.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
1013.	(search* adj4 literature).ab.
1014.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
1015.	cochrane.jw.

1016.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
1017.	or/48-57
1018.	39 and (47 or 58)

Embase (Ovid) search terms

987.	exp atrial fibrillation/
988.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
989.	AF.ti,ab.
990.	1 or 2 or 3
991.	letter.pt. or letter/
992.	note.pt.
993.	editorial.pt.
994.	case report/ or case study/
995.	(letter or comment*).ti.
996.	or/5-9
997.	randomized controlled trial/ or random*.ti,ab.
998.	10 not 11
999.	animal/ not human/
1000.	nonhuman/
1001.	exp Animal Experiment/
1002.	exp Experimental Animal/
1003.	animal model/
1004.	exp Rodent/
1005.	(rat or rats or mouse or mice).ti.
1006.	or/12-19
1007.	4 not 20
1008.	limit 21 to English language
1009.	exp ablation therapy/
1010.	ablat*.ti,ab.
1011.	(cryoablat* or cryoballoon* or cryo balloon*).ti,ab.
1012.	phased array.ti,ab.
1013.	pulmonary vein isolation/ or pulmonary vein/
1014.	((pulmonary vein adj2 isolation) or PVI or PVAI).ti,ab.
1015.	catheter ablation/
1016.	((radiofrequenc* or radio frequenc* or RF or hybrid) adj2 (therap* or surg* or procedure*)).ti,ab.
1017.	"point by point".ti,ab.
1018.	laser/ or low level laser therapy/ or laser surgery/
1019.	laser*.ti,ab.
1020.	(maze adj2 (procedure* or surg*)).ti,ab.
1021.	cox-maze.ti,ab.
1022.	or/23-35
1023.	22 and 36
1024.	random*.ti,ab.
1025.	factorial*.ti,ab.
1026.	(crossover* or cross over*).ti,ab.

1027.	((doubl* or singl*) adj blind*).ti,ab.
1028.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
1029.	crossover procedure/
1030.	single blind procedure/
1031.	randomized controlled trial/
1032.	double blind procedure/
1033.	or/38-46
1034.	systematic review/
1035.	Meta-Analysis/
1036.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
1037.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
1038.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
1039.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
1040.	(search* adj4 literature).ab.
1041.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
1042.	cochrane.jw.
1043.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
1044.	or/48-57
1045.	37 and (47 or 58)

Cochrane Library (Wiley) search terms

#310.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#311.	((atrial or atria or atrium or auricular) near/3 fibrillat*):ti,ab
#312.	AF:ti,ab
#313.	#1 or #2 or #3
#314.	MeSH descriptor: [Ablation Techniques] explode all trees
#315.	ablat*:ti,ab
#316.	(cryoablat* or cryoballoon* or cryo balloon*):ti,ab
#317.	phased array:ti,ab
#318.	MeSH descriptor: [Pulmonary Veins] this term only
#319.	"pulmonary vein" near/2 isolation:ti,ab
#320.	(PVI or PVAI):ti,ab
#321.	MeSH descriptor: [Radiofrequency Therapy] this term only
#322.	((radiofrequenc* or radio frequenc* or RF or hybrid) near/2 (therap* or surg* or procedure*)):ti,ab
#323.	"point by point":ti,ab
#324.	MeSH descriptor: [Lasers] this term only
#325.	laser*:ti,ab
#326.	(maze near/2 (procedure* or surg*)):ti,ab
#327.	cox-maze:ti,ab
#328.	(or #5-#18)

Epistemonikos search terms

6.	(title:(atrial fibrillation OR "AF") OR abstract:(atrial fibrillation OR "AF")) OR
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	(title:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*) OR abstract:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*))
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A.26 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 26: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

545.	exp atrial fibrillation/
546.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
547.	AF.ti,ab.
548.	1 or 2 or 3
549.	letter/
550.	editorial/
551.	news/
552.	exp historical article/
553.	Anecdotes as Topic/
554.	comment/
555.	case report/
556.	(letter or comment*).ti.
557.	or/5-12
558.	randomized controlled trial/ or random*.ti,ab.
559.	13 not 14
560.	animals/ not humans/
561.	exp Animals, Laboratory/
562.	exp Animal Experimentation/
563.	exp Models, Animal/
564.	exp Rodentia/
565.	(rat or rats or mouse or mice).ti.
566.	or/15-21
567.	4 not 22
568.	limit 23 to English language
569.	economics/

570.	value of life/
571.	exp "costs and cost analysis"/
572.	exp Economics, Hospital/
573.	exp Economics, medical/
574.	Economics, nursing/
575.	economics, pharmaceutical/
576.	exp "Fees and Charges"/
577.	exp budgets/
578.	budget*.ti,ab.
579.	cost*.ti.
580.	(economic* or pharmaco?economic*).ti.
581.	(price* or pricing*).ti,ab.
582.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
583.	(financ* or fee or fees).ti,ab.
584.	(value adj2 (money or monetary)).ti,ab.
585.	or/25-40
586.	24 and 41

Embase (Ovid) search terms

489.	exp atrial fibrillation/
490.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
491.	AF.ti,ab.
492.	1 or 2 or 3
493.	letter.pt. or letter/
494.	note.pt.
495.	editorial.pt.
496.	case report/ or case study/
497.	(letter or comment*).ti.
498.	or/5-9
499.	randomized controlled trial/ or random*.ti,ab.
500.	10 not 11
501.	animal/ not human/
502.	nonhuman/
503.	exp Animal Experiment/
504.	exp Experimental Animal/
505.	animal model/
506.	exp Rodent/
507.	(rat or rats or mouse or mice).ti.
508.	or/12-19
509.	4 not 20
510.	limit 21 to English language
511.	health economics/
512.	exp economic evaluation/
513.	exp health care cost/

514.	exp fee/
515.	budget/
516.	funding/
517.	budget*.ti,ab.
518.	cost*.ti.
519.	(economic* or pharmaco?economic*).ti.
520.	(price* or pricing*).ti,ab.
521.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*).ab.
522.	(financ* or fee or fees).ti,ab.
523.	(value adj2 (money or monetary)).ti,ab.
524.	or/23-35
525.	22 and 36

NHS EED and HTA (CRD) search terms

#49.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#50.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#51.	(AF)
#52.	(#1 or #2 or #3)

Atrial Fibrillation Cardiothoracic Surgery Search Strategy L

This literature search strategy was used for the following reviews:

- **What is the most clinical and cost-effective treatment strategy (rate or rhythm control or no treatment) for people with atrial fibrillation after cardiothoracic surgery?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual. {NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.27 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 27: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None
Epistemonikos (Epistemonikos Foundation)	Inception – 31 December 2019	Systematic review studies

Medline (Ovid) search terms

1019.	exp atrial fibrillation/
1020.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1021.	AF.ti,ab.
1022.	1 or 2 or 3
1023.	exp Thoracic Surgery/
1024.	exp cardiovascular surgical procedures/
1025.	((heart or cardiac or aortic or thoracic or lung* or pulmonary or vascular) adj3 (surg* or operat* or procedure* or repair*)).ti,ab.
1026.	((valve* or valvular) adj2 (surg* or operat* or procedure* or repair* or replac*)).ti,ab.
1027.	(revascularis* or revasculariz*).ti,ab.
1028.	(cardio-thoracic or cardiothoracic).ti,ab.
1029.	((postcardiac or post-cardiac or postcardiothoracic or post-cardiothoracic or postthoracic or post-thoracic) adj3 (surg* or operat* or procedure*)).ti,ab.s
1030.	((coronary artery or cardio-pulmonary or cardiopulmonary) adj2 (surg* or operat* or

	graft*)) or CABG*).ti,ab.
1031.	or/5-12
1032.	4 and 13
1033.	(POAF or NOAF).ti,ab.
1034.	((postop* or post-op* or perioperative or peri-operative or intraoperative* or intra-operative* or intrasurg* or intra-surg* or peroperat* or per-operat* or perioperat* or peri-operat*) adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1035.	((postop* or post-op* or perioperative or peri-operative or intraoperative* or intra-operative* or intrasurg* or intra-surg* or peroperat* or per-operat* or perioperat* or peri-operat*) adj3 AF).ti,ab.
1036.	((post* or peri*) adj3 surg* adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1037.	((post* or peri*) adj3 surg* adj3 AF).ti,ab.
1038.	((during or duration or following or after) adj3 (surg* or operat* or anaesthes* or anesthes*) adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1039.	((during or duration or following or after) adj3 (surg* or operat* or anaesthes* or anesthes*) adj3 AF).ti,ab.
1040.	((sudden or recent or new) adj onset adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1041.	((sudden or recent or new) adj onset adj3 AF).ti,ab.
1042.	(acute adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1043.	(acute adj3 AF).ti,ab.
1044.	or/15-25
1045.	14 or 26
1046.	letter/
1047.	editorial/
1048.	news/
1049.	exp historical article/
1050.	Anecdotes as Topic/
1051.	comment/
1052.	case report/
1053.	(letter or comment*).ti.
1054.	or/28-35
1055.	randomized controlled trial/ or random*.ti,ab.
1056.	36 not 37
1057.	animals/ not humans/
1058.	exp Animals, Laboratory/
1059.	exp Animal Experimentation/
1060.	exp Models, Animal/
1061.	exp Rodentia/
1062.	(rat or rats or mouse or mice).ti.
1063.	or/38-44
1064.	27 not 45
1065.	limit 46 to English language
1066.	randomized controlled trial.pt.
1067.	controlled clinical trial.pt.

1068.	randomi#ed.ab.
1069.	placebo.ab.
1070.	randomly.ab.
1071.	clinical trials as topic.sh.
1072.	trial.ti.
1073.	or/48-54
1074.	Meta-Analysis/
1075.	Meta-Analysis as Topic/
1076.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
1077.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
1078.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
1079.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
1080.	(search* adj4 literature).ab.
1081.	(medline or pubmed or cochrane or embase or psychlit or psychlit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
1082.	cochrane.jw.
1083.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
1084.	or/56-65
1085.	47 and (55 or 66)

Embase (Ovid) search terms

1046.	exp atrial fibrillation/
1047.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1048.	AF.ti,ab.
1049.	1 or 2 or 3
1050.	exp *thorax surgery/
1051.	exp *cardiovascular procedure/
1052.	((heart or cardiac or aortic or thoracic or lung* or pulmonary or vascular) adj3 (surg* or operat* or procedure* or repair*)).ti,ab.
1053.	((valve* or valvular) adj2 (surg* or operat* or procedure* or repair* or replac*)).ti,ab.
1054.	(revascularis* or revasculariz*).ti,ab.
1055.	(cardio-thoracic or cardiothoracic).ti,ab.
1056.	((postcardiac or post-cardiac or postcardiothoracic or post-cardiothoracic or postthoracic or post-thoracic) adj3 (surg* or operat* or procedure*)).ti,ab.
1057.	((coronary artery or cardio-pulmonary or cardiopulmonary) adj2 (surg* or operat* or graft*) or CABG*).ti,ab.
1058.	or/5-12
1059.	4 and 13
1060.	(POAF or NOAF).ti,ab.
1061.	((postop* or post-op* or perioperative or peri-operative or intraoperative* or intra-operative* or intrasurg* or intra-surg* or peroperat* or per-operat* or perioperat* or peri-operat*) adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1062.	((postop* or post-op* or perioperative or peri-operative or intraoperative* or intra-operative* or intrasurg* or intra-surg* or peroperat* or per-operat* or perioperat* or peri-operat*) adj3 AF).ti,ab.

1063.	((post* or peri*) adj3 surg* adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*)).ti,ab.
1064.	((post* or peri*) adj3 surg* adj3 AF).ti,ab.
1065.	((during or duration or following or after) adj3 (surg* or operat* or anaesthes* or anesthes*) adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*)).ti,ab.
1066.	((during or duration or following or after) adj3 (surg* or operat* or anaesthes* or anesthes*) adj3 AF).ti,ab.
1067.	((sudden or recent or new) adj onset adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*)).ti,ab.
1068.	((sudden or recent or new) adj onset adj3 AF).ti,ab.
1069.	(acute adj3 ((atrial or atria or atrium or auricular) adj3 fibrillat*)).ti,ab.
1070.	(acute adj3 AF).ti,ab.
1071.	or/15-25
1072.	14 or 26
1073.	letter.pt. or letter/
1074.	note.pt.
1075.	editorial.pt.
1076.	case report/ or case study/
1077.	(letter or comment*).ti.
1078.	or/28-32
1079.	randomized controlled trial/ or random*.ti,ab.
1080.	33 not 34
1081.	animal/ not human/
1082.	nonhuman/
1083.	exp Animal Experiment/
1084.	exp Experimental Animal/
1085.	animal model/
1086.	exp Rodent/
1087.	(rat or rats or mouse or mice).ti.
1088.	or/35-42
1089.	27 not 43
1090.	limit 44 to English language
1091.	random*.ti,ab.
1092.	factorial*.ti,ab.
1093.	(crossover* or cross over*).ti,ab.
1094.	((doubl* or singl*) adj blind*).ti,ab.
1095.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
1096.	crossover procedure/
1097.	single blind procedure/
1098.	randomized controlled trial/
1099.	double blind procedure/
1100.	or/46-54
1101.	systematic review/
1102.	Meta-Analysis/
1103.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
1104.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.

1105.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
1106.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
1107.	(search* adj4 literature).ab.
1108.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
1109.	cochrane.jw.
1110.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
1111.	or/56-65
1112.	45 and (55 or 66)

Cochrane Library (Wiley) search terms

#329.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#330.	((atrial or atria or atrium or auricular) near/3 fibrillat*):ti,ab
#331.	AF:ti,ab
#332.	#1 or #2 or #3
#333.	MeSH descriptor: [Thoracic Surgery] explode all trees
#334.	MeSH descriptor: [Cardiovascular Surgical Procedures] explode all trees
#335.	((heart or cardiac or aortic or thoracic or lung* or pulmonary or vascular) near/3 (surg* or operat* or procedure* or repair*)):ti,ab
#336.	((valve* or valvular) near/2 (surg* or operat* or procedure* or repair* or replac*)):ti,ab
#337.	(revascularis* or revasculariz*):ti,ab
#338.	(cardio-thoracic or cardiothoracic):ti,ab
#339.	((postcardiac or post-cardiac or postcardiothoracic or post-cardiothoracic or postthoracic or post-thoracic) near/3 (surg* or operat* or procedure*)):ti,ab
#340.	((coronary artery or cardio-pulmonary or cardiopulmonary) near/2 (surg* or operat* or graft*)) or CABG*):ti,ab
#341.	(or #5-#12)
#342.	#4 and #13
#343.	(POAF or NOAF):ti,ab
#344.	((postop* or post-op* or perioperative or peri-operative or intraoperative* or intra-operative* or intrasurg* or intra-surg* or peroperat* or per-operat* or perioperat* or peri-operat*) near/3 ((atrial or atria or atrium or auricular) near/3 fibrillat*)):ti,ab
#345.	((postop* or post-op* or perioperative or peri-operative or intraoperative* or intra-operative* or intrasurg* or intra-surg* or peroperat* or per-operat* or perioperat* or peri-operat*) near/3 AF):ti,ab
#346.	((post* or peri*) near/3 surg* near/3 ((atrial or atria or atrium or auricular) near/3 fibrillat*)):ti,ab
#347.	((post* or peri*) near/3 surg* near/3 AF):ti,ab
#348.	((during or duration or following or after) near/3 (surg* or operat* or anaesthes* or anesthes*) near/3 ((atrial or atria or atrium or auricular) near/3 fibrillat*)):ti,ab
#349.	((during or duration or following or after) near/3 (surg* or operat* or anaesthes* or anesthes*) near/3 AF):ti,ab
#350.	((sudden or recent or new) next onset near/3 ((atrial or atria or atrium or auricular) near/3 fibrillat*)):ti,ab

#351.	((sudden or recent or new) next onset near/3 AF):ti,ab
#352.	(acute near/3 ((atrial or atria or atrium or auricular) near/3 fibrillat*)):ti,ab
#353.	(acute near/3 AF):ti,ab
#354.	(or #15-#25)
#355.	#14 or #26

Epistemonikos search terms

7.	(title:(atrial fibrillation OR "AF") OR abstract:(atrial fibrillation OR "AF")) OR (title:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*) OR abstract:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*))
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A.28 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 28: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December 2019	None

Medline (Ovid) search terms

587.	exp atrial fibrillation/
588.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
589.	AF.ti,ab.
590.	1 or 2 or 3
591.	letter/
592.	editorial/
593.	news/
594.	exp historical article/
595.	Anecdotes as Topic/
596.	comment/
597.	case report/
598.	(letter or comment*).ti.
599.	or/5-12
600.	randomized controlled trial/ or random*.ti,ab.
601.	13 not 14
602.	animals/ not humans/
603.	exp Animals, Laboratory/
604.	exp Animal Experimentation/

605.	exp Models, Animal/
606.	exp Rodentia/
607.	(rat or rats or mouse or mice).ti.
608.	or/15-21
609.	4 not 22
610.	limit 23 to English language
611.	economics/
612.	value of life/
613.	exp "costs and cost analysis"/
614.	exp Economics, Hospital/
615.	exp Economics, medical/
616.	Economics, nursing/
617.	economics, pharmaceutical/
618.	exp "Fees and Charges"/
619.	exp budgets/
620.	budget*.ti,ab.
621.	cost*.ti.
622.	(economic* or pharmaco?economic*).ti.
623.	(price* or pricing*).ti,ab.
624.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
625.	(financ* or fee or fees).ti,ab.
626.	(value adj2 (money or monetary)).ti,ab.
627.	or/25-40
628.	24 and 41

Embase (Ovid) search terms

526.	exp atrial fibrillation/
527.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
528.	AF.ti,ab.
529.	1 or 2 or 3
530.	letter.pt. or letter/
531.	note.pt.
532.	editorial.pt.
533.	case report/ or case study/
534.	(letter or comment*).ti.
535.	or/5-9
536.	randomized controlled trial/ or random*.ti,ab.
537.	10 not 11
538.	animal/ not human/
539.	nonhuman/
540.	exp Animal Experiment/
541.	exp Experimental Animal/
542.	animal model/
543.	exp Rodent/

544.	(rat or rats or mouse or mice).ti.
545.	or/12-19
546.	4 not 20
547.	limit 21 to English language
548.	health economics/
549.	exp economic evaluation/
550.	exp health care cost/
551.	exp fee/
552.	budget/
553.	funding/
554.	budget*.ti,ab.
555.	cost*.ti.
556.	(economic* or pharmaco?economic*).ti.
557.	(price* or pricing*).ti,ab.
558.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
559.	(financ* or fee or fees).ti,ab.
560.	(value adj2 (money or monetary)).ti,ab.
561.	or/23-35
562.	22 and 36

NHS EED and HTA (CRD) search terms

#53.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
#54.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#55.	(AF)
#56.	(#1 or #2 or #3)

Atrial Fibrillation Statins Search Strategy M

This literature search strategy was used for the following reviews:

- **What is the clinical and cost effectiveness of statins in the prevention of atrial fibrillation following cardiothoracic surgery?**

The literature searches for this review are detailed below and complied with the methodology outlined in Developing NICE guidelines: the manual.{NICE2014}

For more information, please see the Methods Report published as part of the accompanying documents for this guideline.

A.29 Clinical search literature search strategy

Searches were constructed using a PICO framework where population (P) terms were combined with Intervention (I) and in some cases Comparison (C) terms. Outcomes (O) are rarely used in search strategies for interventions as these concepts may not be well described in title, abstract or indexes and therefore difficult to retrieve. Search filters were applied to the search where appropriate.

Table 29: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline (OVID)	1946 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
Embase (OVID)	1974 – 31 December 2019	Exclusions Randomised controlled trials Systematic review studies
The Cochrane Library (Wiley)	Cochrane Reviews to 2019 Issue 12 of 12 CENTRAL to 2019 Issue 12 of 12	None
Epistemonikos (Epistemonikos Foundation)	Inception – 31 December 2019	Systematic review studies

Medline (Ovid) search terms

1086.	exp Cardiac Surgical Procedures/
1087.	((cardiac or cardio or coronary or heart or cardiovascular) adj3 (surg* or procedure*)),ti,ab.
1088.	((cardiac or cardio or coronary or heart or cardiovascular or arterial or artery) adj3 bypass).ti,ab.
1089.	(arterial adj3 switch adj3 (operat* or procedure*)),ti,ab.
1090.	jatene procedure*.ti,ab.
1091.	(valve* adj2 (replace* or repair* or annuloplasty or prosthe*)).ti,ab.
1092.	cardiomyoplasty.ti,ab.
1093.	((myocardial or transmymocardial) adj2 revasculari?ation).ti,ab.
1094.	(angioplasty or atherectomy).ti,ab.
1095.	norwood procedure*.ti,ab.
1096.	(pericardial adj (window or effusion)).ti,ab.
1097.	(Pericardiectomy or Pericardectomy or Pericardiotomy or Pericardotomy).ti,ab.
1098.	Pericardiocentesis.ti,ab.

1099.	or/1-13
1100.	exp atrial fibrillation/
1101.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1102.	AF.ti,ab.
1103.	15 or 16 or 17
1104.	14 or 18
1105.	letter/
1106.	editorial/
1107.	news/
1108.	exp historical article/
1109.	Anecdotes as Topic/
1110.	comment/
1111.	case report/
1112.	(letter or comment*).ti.
1113.	or/20-27
1114.	randomized controlled trial/ or random*.ti,ab.
1115.	28 not 29
1116.	animals/ not humans/
1117.	exp Animals, Laboratory/
1118.	exp Animal Experimentation/
1119.	exp Models, Animal/
1120.	exp Rodentia/
1121.	(rat or rats or mouse or mice).ti.
1122.	or/30-36
1123.	19 not 37
1124.	limit 38 to English language
1125.	*hydroxymethylglutaryl-coa reductase inhibitors/ or atorvastatin calcium/ or pravastatin/ or rosuvastatin calcium/ or exp simvastatin/
1126.	(atorvastatin* or pravastatin* or rosuvastatin* or simvastatin* or fluvastatin*).ti,ab.
1127.	((Hydroxymethylglutaryl-CoA or HMG-CoA or Hydroxymethylglutaryl-Coenzyme A) adj3 (reductase* or inhibitor*).ti,ab.
1128.	statin*.ti,ab.
1129.	or/40-43
1130.	39 and 44
1131.	randomized controlled trial.pt.
1132.	controlled clinical trial.pt.
1133.	randomi#ed.ab.
1134.	placebo.ab.
1135.	randomly.ab.
1136.	clinical trials as topic.sh.
1137.	trial.ti.
1138.	or/46-52
1139.	Meta-Analysis/
1140.	Meta-Analysis as Topic/
1141.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.

1142.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
1143.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
1144.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
1145.	(search* adj4 literature).ab.
1146.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
1147.	cochrane.jw.
1148.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
1149.	or/54-63
1150.	45 and (53 or 64)

Embase (Ovid) search terms

1113.	exp Heart surgery/
1114.	((cardiac or cardio or coronary or heart or cardiovascular) adj3 (surg* or procedure*)).ti,ab.
1115.	((cardiac or cardio or coronary or heart or cardiovascular or arterial or artery) adj3 bypass).ti,ab.
1116.	(arterial adj3 switch adj3 (operat* or procedure*)).ti,ab.
1117.	jatene procedure*.ti,ab.
1118.	(valve* adj2 (replace* or repair* or annuloplasty or prosthesis)).ti,ab.
1119.	cardiomyoplasty.ti,ab.
1120.	((myocardial or transmyocardial) adj2 revasculari?ation).ti,ab.
1121.	(angioplasty or atherectomy).ti,ab.
1122.	norwood procedure*.ti,ab.
1123.	(pericardial adj (window or effusion)).ti,ab.
1124.	(Pericardiectomy or Pericardectomy or Pericardiotomy or Pericardotomy).ti,ab.
1125.	Pericardiocentesis.ti,ab.
1126.	or/1-13
1127.	exp atrial fibrillation/
1128.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
1129.	AF.ti,ab.
1130.	15 or 16 or 17
1131.	14 or 18
1132.	letter.pt. or letter/
1133.	note.pt.
1134.	editorial.pt.
1135.	case report/ or case study/
1136.	(letter or comment*).ti.
1137.	or/20-24
1138.	randomized controlled trial/ or random*.ti,ab.
1139.	25 not 26
1140.	animal/ not human/
1141.	nonhuman/
1142.	exp Animal Experiment/
1143.	exp Experimental Animal/

1144.	animal model/
1145.	exp Rodent/
1146.	(rat or rats or mouse or mice).ti.
1147.	or/27-34
1148.	19 not 35
1149.	limit 36 to English language
1150.	*hydroxymethylglutaryl coenzyme a reductase inhibitor/ or exp atorvastatin/ or exp pravastatin/ or exp rosuvastatin/ or exp simvastatin/
1151.	(atorvastatin* or pravastatin* or rosuvastatin* or simvastatin* or fluvastatin*).ti,ab.
1152.	((Hydroxymethylglutaryl-CoA or HMG-CoA or Hydroxymethylglutaryl-Coenzyme A) adj3 (reductase* or inhibitor*)).ti,ab.
1153.	statin*.ti,ab.
1154.	or/38-41
1155.	37 and 42
1156.	random*.ti,ab.
1157.	factorial*.ti,ab.
1158.	(crossover* or cross over*).ti,ab.
1159.	((doubl* or singl*) adj blind*).ti,ab.
1160.	(assign* or allocat* or volunteer* or placebo*).ti,ab.
1161.	crossover procedure/
1162.	single blind procedure/
1163.	randomized controlled trial/
1164.	double blind procedure/
1165.	or/44-52
1166.	systematic review/
1167.	Meta-Analysis/
1168.	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
1169.	((systematic* or evidence*) adj3 (review* or overview*)).ti,ab.
1170.	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
1171.	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
1172.	(search* adj4 literature).ab.
1173.	(medline or pubmed or cochrane or embase or psychlit or psyclit or psychinfo or psycinfo or cinahl or science citation index or bids or cancerlit).ab.
1174.	cochrane.jw.
1175.	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
1176.	or/54-63
1177.	43 and (53 or 64)

Cochrane Library (Wiley) search terms

#356.	MeSH descriptor: [Cardiac Surgical Procedures] explode all trees
#357.	((cardiac or cardio or coronary or heart or cardiovascular) near/3 (surg* or procedure*)):ti,ab
#358.	((cardiac or cardio or coronary or heart or cardiovascular or arterial or artery) near/3 bypass):ti,ab
#359.	(arterial near/3 switch near/3 (operat* or procedure*)):ti,ab

#360.	jatene procedure*:ti,ab
#361.	(valve* near/2 (replace* or repair* or annuloplasty or prosthesis)):ti,ab
#362.	cardiomyoplasty:ti,ab
#363.	((myocardial or transmymocardial) near/2 revasculari?ation):ti,ab
#364.	(angioplasty or atherectomy):ti,ab
#365.	norwood procedure*:ti,ab
#366.	(pericardial near/1 (window or effusion)):ti,ab
#367.	(Pericardiectomy or Pericardectomy or Pericardiotomy or Pericardotomy):ti,ab
#368.	Pericardiocentesis:ti,ab
#369.	(or #1-#13)
#370.	MeSH descriptor: [Atrial Fibrillation] explode all trees
#371.	((atrial or atria or atrium or auricular) near/3 fibrillat*):ti,ab
#372.	AF:ti,ab
#373.	#15 or #16 or #17
#374.	#14 or #18
#375.	MeSH descriptor: [Hydroxymethylglutaryl-CoA Reductase Inhibitors] this term only
#376.	MeSH descriptor: [Atorvastatin] this term only
#377.	MeSH descriptor: [Pravastatin] this term only
#378.	MeSH descriptor: [Rosuvastatin Calcium] this term only
#379.	MeSH descriptor: [Simvastatin] explode all trees
#380.	(atorvastatin* or pravastatin* or rosuvastatin* or simvastatin* or fluvastatin*):ti,ab
#381.	((Hydroxymethylglutaryl-CoA or HMG-CoA or Hydroxymethylglutaryl-Coenzyme A) near/3 (reductase* or inhibitor*)):ti,ab
#382.	statin*:ti,ab
#383.	(or #20-#27)
#384.	#19 and #28

Epistemonikos search terms

8.	(title:(atrial fibrillation OR "AF") OR abstract:(atrial fibrillation OR "AF")) OR (title:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*) OR abstract:(atria fibrillat* OR atrium fibrillat* OR auricular fibrillat*))
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A.30 Health Economics literature search strategy

Health economic evidence was identified by conducting a broad search relating to the Atrial Fibrillation population in NHS Economic Evaluation Database (NHS EED – this ceased to be updated after March 2015) and the Health Technology Assessment database (HTA). NHS EED and HTA databases are hosted by the Centre for Research and Dissemination (CRD). Additional health economics searches were run on Medline and Embase.

Table 30: Database date parameters and filters used

Database	Dates searched	Search filter used
Medline	2003– 31 December 2019	Exclusions Health economics studies
Embase	2003– 31 December 2019	Exclusions Health economics studies
Centre for Research and Dissemination (CRD)	NHSEED - 2003 to March 2015 HTA - 2003 –31 December	None

Database	Dates searched	Search filter used
	2019	

Medline (Ovid) search terms

629.	exp atrial fibrillation/
630.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
631.	AF.ti,ab.
632.	1 or 2 or 3
633.	letter/
634.	editorial/
635.	news/
636.	exp historical article/
637.	Anecdotes as Topic/
638.	comment/
639.	case report/
640.	(letter or comment*).ti.
641.	or/5-12
642.	randomized controlled trial/ or random*.ti,ab.
643.	13 not 14
644.	animals/ not humans/
645.	exp Animals, Laboratory/
646.	exp Animal Experimentation/
647.	exp Models, Animal/
648.	exp Rodentia/
649.	(rat or rats or mouse or mice).ti.
650.	or/15-21
651.	4 not 22
652.	limit 23 to English language
653.	economics/
654.	value of life/
655.	exp "costs and cost analysis"/
656.	exp Economics, Hospital/
657.	exp Economics, medical/
658.	Economics, nursing/
659.	economics, pharmaceutical/
660.	exp "Fees and Charges"/
661.	exp budgets/
662.	budget*.ti,ab.
663.	cost*.ti.
664.	(economic* or pharmaco?economic*).ti.
665.	(price* or pricing*).ti,ab.
666.	(cost* adj2 (effective* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
667.	(financ* or fee or fees).ti,ab.
668.	(value adj2 (money or monetary)).ti,ab.

669.	or/25-40
670.	24 and 41

Embase (Ovid) search terms

563.	exp atrial fibrillation/
564.	((atrial or atria or atrium or auricular) adj3 fibrillat*).ti,ab.
565.	AF.ti,ab.
566.	1 or 2 or 3
567.	letter.pt. or letter/
568.	note.pt.
569.	editorial.pt.
570.	case report/ or case study/
571.	(letter or comment*).ti.
572.	or/5-9
573.	randomized controlled trial/ or random*.ti,ab.
574.	10 not 11
575.	animal/ not human/
576.	nonhuman/
577.	exp Animal Experiment/
578.	exp Experimental Animal/
579.	animal model/
580.	exp Rodent/
581.	(rat or rats or mouse or mice).ti.
582.	or/12-19
583.	4 not 20
584.	limit 21 to English language
585.	health economics/
586.	exp economic evaluation/
587.	exp health care cost/
588.	exp fee/
589.	budget/
590.	funding/
591.	budget*.ti,ab.
592.	cost*.ti.
593.	(economic* or pharmaco?economic*).ti.
594.	(price* or pricing*).ti,ab.
595.	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
596.	(financ* or fee or fees).ti,ab.
597.	(value adj2 (money or monetary)).ti,ab.
598.	or/23-35
599.	22 and 36

NHS EED and HTA (CRD) search terms

#57.	MeSH DESCRIPTOR Atrial Fibrillation EXPLODE ALL TREES
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#58.	((atrial or atria or atrium or auricular) adj3 fibrillat*)
#59.	(AF)
#60.	(#1 or #2 or #3)