

Atrial Fibrillation

Appendix

Clinical Guideline <...>

Search strategies

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Draft for Consultation

*Commissioned by the National Institute for
Health and Clinical Excellence*

Disclaimer

Healthcare professionals are expected to take NICE clinical guidelines fully into account when exercising their clinical judgement. However, the guidance does not override the responsibility of healthcare professionals to make decisions appropriate to the circumstances of each patient, in consultation with the patient and/or their guardian or carer.

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Appendices

Appendix A: Literature search strategies

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Search strategies used for the atrial fibrillation guideline are outlined below and were run in accordance with the methodology in the NICE Guidelines Manual 2012.¹ All searches were run up to 3 October 2013 unless otherwise stated. Any studies added to the databases after this date were not included unless specifically stated in the text. Where possible searches were limited to retrieve material published in English.

Searches for the **clinical reviews** were run in Medline (OVID), Embase (OVID) and the Cochrane Library (Wiley). Additional searches were run in CINAHL (EBSCO), PsycInfo (OVID) and HMIC (OVID) for some questions. Usually, searches were constructed in the following way:

- A PICO format was used for **intervention** searches where population (P) terms were combined with Intervention (I) and sometimes Comparison (C) terms. An intervention can be a drug,

a procedure or a diagnostic test. Outcomes (O) are rarely used in search strategies for interventions. Search filters were also added to the search where appropriate.

- A PEO format was used for **prognosis** searches where population (P) terms were combined with exposure (E) terms and sometimes outcomes (O). Search filters were added to the search where appropriate.

Searches for the **health economic reviews** were run in Medline (Ovid), Embase (Ovid), the NHS Economic Evaluations Database (NHS EED), the Health Technology Assessment (HTA) database and the Health Economic Evaluation Database (HEED). Searches in NHS EED and HEED were constructed only using population terms. For Medline and Embase an economic filter (instead of a study type filter) was added to the same clinical search strategy.

A.1 Population search strategies

Medline search terms

1	exp atrial fibrillation/
2	(atrial adj3 fibrillat*).ti,ab.
3	((auricular adj3 fibrillat*) or (supraventricul* adj3 arrhythmi*)).ti,ab.
4	or/1-3
5	limit 4 to english language
6	letter/
7	editorial/
8	news/
9	exp historical article/
10	anecdotes as topic/
11	comment/
12	case report/
13	(letter or comment*).ti.
14	or/6-13
15	randomized controlled trial/ or random*.ti,ab.
16	14 not 15
17	animals/ not humans/
18	animals, laboratory/
19	exp animal experiment/
20	exp animal model/
21	exp rodentia/
22	(rat or rats or mouse or mice).ti.
23	or/16-22
24	5 not 23

Embase search terms

1	heart atrium fibrillation/
2	(atrial adj3 fibrillat*).ti,ab.
3	((auricular adj3 fibrillat*) or (supraventricul* adj3 arrhythmi*)).ti,ab.
4	or/1-3
5	limit 4 to english language
6	letter.pt. or letter/

7	note.pt.
8	editorial.pt.
9	case report/ or case study/
10	(letter or comment*).ti.
11	or/6-10
12	randomized controlled trial/ or random*.ti,ab.
13	11 not 12
14	animal/ not human/
15	nonhuman/
16	exp animal experiment/
17	exp experimental animal/
18	animal model/
19	exp rodent/
20	(rat or rats or mouse or mice).ti.
21	or/13-20
22	5 not 21

Cochrane search terms

#1	MeSH descriptor Atrial Fibrillation, this term only
#2	(atrial near/3 fibrillat*):ti,ab
#3	(auricular near/3 fibrillat*):ti,ab
#4	(supraventricular near/3 *arrhythmia*):ti,ab
#5	(#1 OR #2 OR #3 OR #4)

CINAHL search terms

S1	(MH "Arrhythmia, Atrial") OR (MH "Atrial Fibrillation")
S2	(atrial n3 fibrillat*)
S3	((auricular n3 fibrillat*) or (supraventricul* n3 arrhythmi*))
S4	S1 OR S2 OR S3
S5	PT anecdote or PT audiovisual or PT bibliography or PT biography or PT book or PT book review or PT brief item or PT cartoon or PT commentary or PT computer program or PT editorial or PT games or PT glossary or PT historical material or PT interview or PT letter or PT listservs or PT masters thesis or PT obituary or PT pamphlet or PT pamphlet chapter or PT pictorial or PT poetry or PT proceedings or PT "questions and answers" or PT response or PT software or PT teaching materials or PT website
S6	S4 NOT S5

PsycInfo search terms

1	"fibrillation (heart)"/
2	(atrial adj3 fibrillat*).ti,ab.
3	((auricular adj3 fibrillat*) or (supraventricul* adj3 arrhythmi*)).ti,ab.
4	or/1-3
5	limit 4 to english language

HMIC search terms

1	exp arrhythmia/
2	(atrial adj3 fibrillat*).ti,ab.
3	((auricular adj3 fibrillat*) or (supraventricul* adj3 arrhythmi*)).ti,ab.

4	or/1-3
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A.2 Study filter search terms

A.2.1 Systematic review search terms

Medline search terms

1	meta-analysis/
2	meta-analysis as topic/
3	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
4	((systematic* or evidence*) adj2 (review* or overview*)).ti,ab.
5	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7	(search* adj4 literature).ab.
8	(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.
9	cochrane.jw.
10	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
11	or/1-10

Embase search terms

1	systematic review/
2	meta-analysis/
3	(meta analy* or metanaly* or metaanaly* or meta regression).ti,ab.
4	((systematic or evidence) adj2 (review* or overview*)).ti,ab.
5	(reference list* or bibliograph* or hand search* or manual search* or relevant journals).ab.
6	(search strategy or search criteria or systematic search or study selection or data extraction).ab.
7	(search* adj4 literature).ab.
8	(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.
9	cochrane.jw.
10	((multiple treatment* or indirect or mixed) adj2 comparison*).ti,ab.
11	or/1-10

A.2.2 Randomised controlled studies (RCTs) search terms

Medline search terms

1	randomized controlled trial.pt.
2	controlled clinical trial.pt.
3	randomi#ed.ab.
4	placebo.ab.
5	randomly.ab.
6	Clinical Trials as topic.sh.
7	trial.ti.
8	or/1-7

Embase search terms

1	random*.ti,ab.
2	factorial*.ti,ab.
3	(crossover* or cross over*).ti,ab.
4	((doubl* or singl*) adj blind*).ti,ab.
5	(assign* or allocat* or volunteer* or placebo*).ti,ab.
6	crossover procedure/
7	single blind procedure/
8	randomized controlled trial/
9	double blind procedure/
10	or/1-9

A.2.3 Observational studies search terms

Medline search terms

1	epidemiologic studies/
2	exp case control studies/
3	exp cohort studies/
4	cross-sectional studies/
5	case control.ti,ab.
6	(cohort adj (study or studies or analys*)).ti,ab.
7	((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic*) adj (study or studies)).ti,ab.
8	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort*)).ti,ab.
9	or/1-8

Embase search terms

1	clinical study/
2	exp case control study/
3	family study/
4	longitudinal study/
5	retrospective study/
6	prospective study/
7	cross-sectional study/
8	cohort analysis/
9	follow-up/
10	cohort*.ti,ab.
11	9 and 10
12	case control.ti,ab.
13	(cohort adj (study or studies or analys*)).ti,ab.
14	((follow up or observational or uncontrolled or non randomi#ed or nonrandomi#ed or epidemiologic*) adj (study or studies)).ti,ab.
15	((longitudinal or retrospective or prospective or cross sectional) and (study or studies or review or analys* or cohort*)).ti,ab.
16	or/1-8,11-15

A.2.4 Prognosis search terms

Medline search terms

1	(prognos* or predict*).ti,ab.
2	exp prognosis/
3	exp "predictive value of tests"/
4	or/1-3

Embase search terms

1	(prognos* or predict*).ti,ab.
2	prognosis/
3	predictive value/
4	or/1-3

A.2.5 Health economic search terms

Medline search terms

1	economics/
2	value of life/
3	exp "costs and cost analysis"/
4	exp economics, hospital/
5	exp economics, medical/
6	economics, nursing/
7	economics, pharmaceutical/
8	exp "fees and charges"/
9	exp budgets/
10	budget*.ti,ab.
11	cost*.ti.
12	(economic* or pharmaco?economic*).ti.
13	(price* or pricing*).ti,ab.
14	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.
15	(financ* or fee or fees).ti,ab.
16	(value adj2 (money or monetary)).ti,ab.
17	or/1-16

Embase search terms

1	health economics/
2	exp economic evaluation/
3	exp health care cost/
4	exp fee/
5	budget/
6	funding/
7	budget*.ti,ab.
8	cost*.ti.
9	(economic* or pharmaco?economic*).ti.
10	(price* or pricing*).ti,ab.
11	(cost* adj2 (effectiv* or utilit* or benefit* or minimi* or unit* or estimat* or variable*)).ab.

12	(financ* or fee or fees).ti,ab.
13	(value adj2 (money or monetary)).ti,ab.
14	or/1-13

A.2.6 Quality of life search terms

Medline search terms

1	quality-adjusted life years/
2	sickness impact profile/
3	(quality adj2 (wellbeing or well being)).ti,ab.
4	sickness impact profile.ti,ab.
5	disability adjusted life.ti,ab.
6	(qal* or qtime* or qwb* or daly*).ti,ab.
7	(euroqol* or eq5d* or eq 5*).ti,ab.
8	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
9	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
10	(hui or hui1 or hui2 or hui3).ti,ab.
11	(health* year* equivalent* or hye or hyes).ti,ab.
12	discrete choice*.ti,ab.
13	rosser.ti,ab.
14	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
15	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.
16	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
17	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
18	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
19	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
20	or/1-19

Embase search terms

1	quality adjusted life year/
2	"quality of life index"/
3	short form 12/ or short form 20/ or short form 36/ or short form 8/
4	sickness impact profile/
5	(quality adj2 (wellbeing or well being)).ti,ab.
6	sickness impact profile.ti,ab.
7	disability adjusted life.ti,ab.
8	(qal* or qtime* or qwb* or daly*).ti,ab.
9	(euroqol* or eq5d* or eq 5*).ti,ab.
10	(qol* or hql* or hqol* or h qol* or hrqol* or hr qol*).ti,ab.
11	(health utility* or utility score* or disutilit* or utility value*).ti,ab.
12	(hui or hui1 or hui2 or hui3).ti,ab.
13	(health* year* equivalent* or hye or hyes).ti,ab.
14	discrete choice*.ti,ab.
15	rosser.ti,ab.
16	(willingness to pay or time tradeoff or time trade off or tto or standard gamble*).ti,ab.
17	(sf36* or sf 36* or short form 36* or shortform 36* or shortform36*).ti,ab.

18	(sf20 or sf 20 or short form 20 or shortform 20 or shortform20).ti,ab.
19	(sf12* or sf 12* or short form 12* or shortform 12* or shortform12*).ti,ab.
20	(sf8* or sf 8* or short form 8* or shortform 8* or shortform8*).ti,ab.
21	(sf6* or sf 6* or short form 6* or shortform 6* or shortform6*).ti,ab.
22	or/1-21

A.3 Searches by specific questions

A.3.1 Referral

What is the clinical and cost effectiveness of referral to specialist AF services?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	Referral		SRs RCTs Observational (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

Referral search terms

Medline search terms

1	nurse's practice patterns/
2	ambulatory care/
3	"referral and consultation"/
4	specialization/
5	((atrial or fibrillat* or arrhythmi* or af) adj2 (service or clinic*1 or hospital*1 or centre* or center* or specialist* or physician* or doctor* or nurse* or gp)).ti,ab.
6	(specialist* adj2 (service* or clinic*1 or hospital*1 or centre* or center* or physician or doctor* or nurse* or gp)).ti,ab.
7	(nurse* adj2 (led or care or service* or centre* or center* or clinic*1)).ti,ab.
8	or/1-7

Embase search terms

1	*ambulatory care/
2	*nursing care/
3	*patient referral/
4	*medical specialist/
5	((atrial or fibrillat* or arrhythmi* or af) adj2 (service or clinic*1 or hospital*1 or centre* or center* or specialist* or physician* or doctor* or nurse* or GP)).ti,ab.
6	(specialist* adj2 (service* or clinic*1 or hospital*1 or centre* or center* or physician or doctor* or nurse* or GP)).ti,ab.
7	(nurse* adj2 (led or care or service* or centre* or center* or clinic*1)).ti,ab.
8	or/1-7

Cochrane search terms

#1	[mh ^"Nurse's Practice Patterns"]
#2	[mh ^"Ambulatory Care"]
#3	[mh ^"Referral and Consultation"]

#4	[mh ^Specialization]
#5	((atrial or fibrillat* or arrhythmi* or af) near/2 (service or clinic or clinics or hospital or hospitals or centre* or center* or specialist* or physician* or doctor* or nurse* or GP)):ti,ab
#6	(specialist* near/2 (service* or clinic or clinics or hospital or hospitals or centre* or center* or physician or doctor* or nurse* or GP)):ti,ab
#7	(nurse* near/2 (led or care or service* or centre* or center* or clinic or clinics)):ti,ab
#8	{or #1-#7}

CINAHL search terms

S1	(MH "Referral and Consultation+") OR (MH "Ambulatory Care") OR (MH "Ambulatory Care Nursing") OR (MH "Ambulatory Care Facilities") OR (MH "Nurse-Managed Centers") OR (MH "Nurse Specialist Service (Saba CCC)") OR (MH "Clinical Nurse Specialists")
S2	((atrial or fibrillat* or arrhythmi* or af) n2 (service or clinic or clinics or hospital or hospitals or centre* or center* or specialist* or physician* or doctor* or nurse* or GP))
S3	(specialist* n2 (service* or clinic or clinics or hospital or hospitals or centre* or center* or physician or doctor* or nurse* or GP))
S4	(nurse* n2 (led or care or service* or centre* or center* or clinic or clinics))
S5	S1 OR S2 OR S3 OR S4

HMIC search terms

1	ambulatory care/ or ambulatory care services/
2	nurse led services/
3	specialist services/
4	exp referral/
5	((atrial or fibrillat* or arrhythmi* or af) adj2 (service or clinic*1 or hospital*1 or centre* or center* or specialist* or physician* or doctor* or nurse* or GP)).ti,ab.
6	(specialist* adj2 (service* or clinic*1 or hospital*1 or centre* or center* or physician or doctor* or nurse* or GP)).ti,ab.
7	(nurse* adj2 (led or care or service* or centre* or center* or clinic*1)).ti,ab.
8	or/1-7

A.3.2 Education

What educational and behavioural interventions are clinically and cost effective for aiding the management of anticoagulant therapy, rate and rhythm and symptoms in patients with AF?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	Education		SRs RCTs (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

Education search terms

Medline search terms

1	health knowledge, attitudes, practice/
2	patient participation/
3	exp information services/
4	patient education as topic/ or patient education handout/

5	"patient acceptance of health care"/ or exp patient satisfaction/
6	communication/
7	exp consumer health information/
8	((educat* or train* or teach*) adj3 (program* or intervention*)).ti,ab.
9	(patient* adj3 (train* or teach* or educat* or inform*)).ti,ab.
10	((patient or patients) adj3 (education or educate or educating or information or literature or leaflet* or booklet* or pamphlet* or website* or knowledge or app or apps)).ti,ab.
11	(information* adj3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*)).ti,ab.
12	motivation/
13	motivational interview*.ti,ab.
14	contingency management.ti,ab.
15	biofeedback.ti,ab.
16	bio-feedback.ti,ab.
17	goals/
18	(goal* adj3 set*).ti,ab.
19	decision support techniques/
20	decision* aid*.ti,ab.
21	(decision* adj3 support*).ti,ab.
22	exp communications media/
23	exp counseling/
24	exp psychotherapy/
25	social support/
26	(psycholog* or council* or counsel* or psychotherap* or psychosocial).ti,ab.
27	((support* or advice or advise) adj3 (telephone* or internet or program* or group*)).ti,ab.
28	(behavi* adj3 (therap* or manage* or modif* or chang* or intervention*)).ti,ab.
29	(cogniti* adj3 (therap* or intervention*)).ti,ab.
30	cbt.ti,ab.
31	((anxiety* or anxious*) adj3 (manag* or treat* or therap*)).ti,ab.
32	or/1-31

Embase search terms

1	attitude to health/
2	patient participation/
3	*motivation/
4	decision support system/
5	*mass medium/
6	patient attitude/ or *patient preference/ or *patient satisfaction/ or consumer attitude/
7	consumer health information/
8	information service/ or information center/ or publication/ or book/
9	patient information/ or patient education/
10	medical information/
11	health literacy/
12	exp *interpersonal communication/
13	exp *counseling/
14	exp *psychotherapy/

15	*psychosocial care/
16	*social support/
17	((educat* or train* or teach*) adj3 (program* or intervention*)):ti,ab.
18	(patient* adj3 (train* or teach* or educat* or inform*)):ti,ab.
19	((patient or patients) adj3 (education or educate or educating or information or literature or leaflet* or booklet* or pamphlet* or website* or knowledge or app or apps)):ti,ab.
20	(information* adj3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*)):ti,ab.
21	motivational interview*.ti,ab.
22	contingency management.ti,ab.
23	biofeedback.ti,ab.
24	bio-feedback.ti,ab.
25	(goal* adj3 set*).ti,ab.
26	decision* aid*.ti,ab.
27	(decision* adj3 support*).ti,ab.
28	(psycholog* or council* or counsel* or psychotherap* or psychosocial).ti,ab.
29	((support* or advice or advise) adj3 (telephone* or internet or program* or group*)):ti,ab.
30	(behavi* adj3 (therap* or manage* or modif* or chang* or intervention*)):ti,ab.
31	(cogniti* adj3 (therap* or intervention*)):ti,ab.
32	cbt.ti,ab.
33	((anxiety* or anxious*) adj3 (manag* or treat* or therap*)):ti,ab.
34	or/1-33

Cochrane search terms

#1	[mh ^"Health Knowledge, Attitudes, Practice"]
#2	[mh ^"Patient Participation"]
#3	[mh "Information Services"]
#4	[mh ^"Patient Education as Topic"]
#5	[mh ^"Patient Education Handout"]
#6	[mh ^"patient acceptance of health care"]
#7	[mh "patient satisfaction"]
#8	[mh ^Communication]
#9	[mh "Consumer Health Information"]
#10	((educat* or train* or teach*) near/3 (program* or intervention*)):ti,ab
#11	(patient* near/3 (train* or teach* or educat* or inform*)):ti,ab
#12	((patient or patients) near/3 (education or educate or educating or information or literature or leaflet* or booklet* or pamphlet* or website* or knowledge or app or apps)):ti,ab
#13	(information* near/3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*)):ti,ab
#14	[mh ^Motivation]
#15	motivational interview*:ti,ab
#16	contingency management:ti,ab
#17	biofeedback:ti,ab
#18	bio-feedback:ti,ab
#19	[mh ^goals]
#20	(goal* near/3 set*):ti,ab

#21	[mh ^"decision support techniques"]
#22	decision* aid*:ti,ab
#23	(decision* near/3 support*):ti,ab
#24	[mh "communications media"]
#25	[mh Counseling]
#26	[mh Psychotherapy]
#27	[mh ^"Social support"]
#28	(psycholog* or council* or counsel* or psychotherap* or psychosocial):ti,ab
#29	((support* or advice or advise) near/3 (telephone* or internet or program* or group*)):ti,ab
#30	(behavi* near/3 (therap* or manage* or modif* or chang* or intervention*)):ti,ab
#31	(cogniti* near/3 (therap* or intervention*)):ti,ab
#32	CBT:ti,ab
#33	((anxiety* or anxious*) near/3 (manag* or treat* or therap*)):ti,ab
#34	{or #1-#33}

CINAHL search terms

S1	(MH "Information Services+") OR (MH "Counseling+") OR (MH "Patient Education") OR (MH "Patient Discharge Education") OR (MH "Health Education") OR (MH "Patient Attitudes") OR (MH "Communication+")
S2	(MH "Consumer Health Information") OR (MH "Psychotherapy+")
S3	(MH "Communications Media") OR (MH "Decision Support Techniques") OR (MH "Goals and Objectives") OR (MH "Motivation") OR (MH "Consumer Participation") OR (MH "Attitude to Health")
S4	((educat* or train* or teach*) n3 (program* or intervention*))
S5	(patient* n3 (train* or teach* or educat* or inform*))
S6	((patient or patients) n3 (education or educate or educating or information or literature or leaflet* or booklet* or pamphlet* or website* or knowledge or app or apps))
S7	(information* n3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*))
S8	motivational interview* OR contingency management OR goal* n3 set*
S9	biofeedback OR bio-feedback OR decision* aid* OR decision* n3 support*
S10	(psycholog* or council* or counsel* or psychotherap* or psychosocial)
S11	((support* or advice or advise) n3 (telephone* or internet or program* or group*))
S12	(behavi* n3 (therap* or manage* or modif* or chang* or intervention*))
S13	(cogniti* n3 (therap* or intervention*))
S14	CBT
S15	((anxiety* or anxious*) n3 (manag* or treat* or therap*))
S16	S1 OR S2 OR S3 OR S4 OR S5 OR S6 OR S7 OR S8 OR S9 OR S10 OR S11 OR S12 OR S13 OR S14 OR S15

PsycInfo search terms

1	client education/
2	client participation/
3	exp psychotherapy/
4	exp counseling/
5	motivation/
6	exp goals/
7	biofeedback/

8	decision making/
9	exp communications media/
10	health knowledge/
11	health attitudes/
12	exp information/
13	((educat* or train* or teach*) adj3 (program* or intervention*)).ti,ab.
14	(patient* adj3 (train* or teach* or educat* or inform*)).ti,ab.
15	((patient or patients) adj3 (education or educate or educating or information or literature or leaflet* or booklet* or pamphlet* or website* or knowledge or app or apps)).ti,ab.
16	(information* adj3 (patient* or need* or requirement* or support* or seek* or access* or disseminat*)).ti,ab.
17	motivational interview*.ti,ab.
18	contingency management.ti,ab.
19	biofeedback.ti,ab.
20	bio-feedback.ti,ab.
21	(goal* adj3 set*).ti,ab.
22	decision* aid*.ti,ab.
23	(decision* adj3 support*).ti,ab.
24	(psycholog* or council* or counsel* or psychotherap* or psychosocial).ti,ab.
25	((support* or advice or advise) adj3 (telephone* or internet or program* or group*)).ti,ab.
26	(behavi* adj3 (therap* or manage* or modif* or chang* or intervention*)).ti,ab.
27	(cogniti* adj3 (therap* or intervention*)).ti,ab.
28	CBT.ti,ab.
29	((anxiety* or anxious*) adj3 (manag* or treat* or therap*)).ti,ab.
30	or/1-29

A.3.3 Risk

Searches for the following two questions were run as one search:

What is the clinically and cost effective of HASBLED compared to other tools in assessing bleeding risk in people with AF?

What is the clinically and cost effective risk stratification tools for stroke or thromboembolic events in atrial fibrillation?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	Risk		SRs RCTs Observational Prognostic (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

Risk search terms

Medline search terms

1	(hasbled or has-bled).ti,ab.
2	(atria adj2 scor*).ti,ab.

3	"HEMORR(2)HAGES".ti,ab.
4	hemorr2hages.ti,ab.
5	((bleed* or hemorrhag* or haemorrhag*) adj3 scor*).ti,ab.
6	((bleed* or hemorrhag* or haemorrhag*) adj3 (risk tool* or risk schem* or risk stratif*)).ti,ab.
7	hemorrhage/ci, ep [Chemically Induced, Epidemiology]
8	proportional hazards models/ or logistic models/ or risk assessment/ or risk factors/
9	decision support systems, clinical/ or decision support techniques/
10	8 or 9
11	(risk tool* or stratification or rating scale* or scoring system* or scoring schem* or risk schem*).ti,ab.
12	10 and 11
13	7 and 12
14	or/1-6,13
15	chads*.ti,ab.
16	cha2ds2*.ti,ab.
17	"cha(2)ds(2)-vasc".ti,ab.
18	(birmingham adj3 (risk tool* or risk scor* or risk system* or risk schem* or risk stratif*)).ti,ab.
19	((stroke or strokes or thrombosis or thrombotic or thromboemboli*) adj6 (risk tool* or risk scor* or risk system* or risk scheme* or risk stratif*)).ti,ab.
20	stroke/ep, pc [Epidemiology, Prevention & Control]
21	thrombosis/ep, pc [Epidemiology, Prevention & Control]
22	thromboembolism/ep, pc [Epidemiology, Prevention & Control]
23	or/20-22
24	proportional hazards models/ or logistic models/ or risk assessment/ or risk factors/
25	decision support systems, clinical/ or decision support techniques/
26	24 or 25
27	(risk tool* or stratification or scoring system* or rating scale* or scoring schem* or risk schem*).ti,ab.
28	23 and 26 and 27
29	or/15-19,28
30	14 or 29

Embase search terms

1	*"HAS BLED Score"/ or (hasbled or has-bled).ti,ab.
2	(atria adj2 scor*).ti,ab.
3	"HEMORR(2)HAGES".ti,ab.
4	hemorr2hages.ti,ab.
5	((bleed* or hemorrhag* or haemorrhag*) adj3 scor*).ti,ab.
6	((bleed* or hemorrhag* or haemorrhag*) adj3 (risk tool* or risk schem* or risk stratif*)).ti,ab.
7	*bleeding/
8	proportional hazards model/ or hazard ratio/ or risk assessment/ or risk factors/
9	decision support system/ or rating scale/ or scoring system/ or "named inventories, questionnaires and rating scales"/
10	8 or 9
11	(risk tool* or stratification or rating scale* or scoring system* or scoring schem* or risk schem*).ti,ab.
12	10 and 11

13	7 and 12
14	or/1-6,13
15	*chads2 score/ or chads*.ti.
16	cha2ds2*.ti,ab.
17	"cha(2)ds(2)-vasc".ti,ab.
18	((birmingham or chads*) adj3 (risk tool* or risk scor* or risk system* or risk schem* or risk stratif*).ti,ab.
19	((stroke or strokes or thromboemboli* or thrombosis or thrombotic) adj6 (risk tool* or risk scor* or risk system* or risk scheme* or risk stratif*).ti,ab.
20	*cerebrovascular accident/
21	*thromboembolism/ or *thrombosis/
22	20 or 21
23	proportional hazards model/ or hazard ratio/ or risk assessment/ or risk factors/
24	decision support system/ or rating scale/ or scoring system/ or "named inventories, questionnaires and rating scales"/
25	23 or 24
26	(risk tool* or stratification or scoring system* or rating scale* or scoring schem* or risk schem*).ti,ab.
27	22 and 25 and 26
28	or/15-19,27
29	14 or 28

Cochrane search terms

#1	("has-bled" or hasbled or chads*).ti,ab
#2	cha(2)ds(2)-vasc:ti,ab
#3	cha(2)ds(2):ti,ab
#4	(atria near/2 scor*):ti,ab
#5	HEMORR(2)HAGES:ti,ab
#6	hemorr2hages:ti,ab
#7	((bleed* or hemorrhag* or haemorrhag*) next/3 scor*):ti,ab
#8	((bleed* or hemorrhag* or haemorrhag* or "stroke" or "strokes" or thrombosis or thrombotic or thromboemboli*) near/3 risk*) near/3 (tool* or scal* or schem* or stratif*):ti,ab
#9	{or #1-#8}
#10	MeSH descriptor: [Hemorrhage] this term only and with qualifiers: [Chemically induced - CI, Epidemiology - EP]
#11	MeSH descriptor: [Stroke] this term only and with qualifiers: [Epidemiology - EP, Prevention & control - PC]
#12	MeSH descriptor: [Thrombosis] this term only and with qualifiers: [Epidemiology - EP, Prevention & control - PC]
#13	MeSH descriptor: [Thromboembolism] this term only and with qualifiers: [Epidemiology - EP, Prevention & control - PC]
#14	#10 or #11 or #12 or #13
#15	risk* near/3 (tool* or scal* or schem* or stratif*):ti,ab
#16	(scoring next/2 system*):ti,ab
#17	(rating next/2 scale*):ti,ab
#18	1#15 or #16 or #17
#19	#14 and #18

#20	#9 or #19
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A.3.4 Anticoagulation

What is the most clinical and cost-effective antithrombotic therapy for stroke prevention in people with AF?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	Anticoagulation		SRs RCTs (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

Anticoagulation search terms

Medline search terms

1	platelet aggregation inhibitors/ or aspirin/ or dipyridamole/
2	aspirin.ti,ab.
3	(clopidogrel or plavix).ti,ab.
4	(ticagrelor or brilique).ti,ab.
5	(prasugrel or efient or effient or prasita).ti,ab.
6	(dipyridamole or persantin or asasantin).ti,ab.
7	(tirofiban or aggrastat).ti,ab.
8	(antiplatelet* or (platelet* adj2 (inhibit* or antagon*))).ti,ab.
9	anticoagulants/ or acenocoumarol/ or coumarins/ or phenindione/ or phenprocoumon/ or warfarin/ or antithrombins/
10	warfarin.ti,ab.
11	(acenocoumarol or phenprocoumon or phenidione or (vitamin k adj2 antagonist*).ti,ab.
12	((factor xa adj2 inhibit*) or rivaroxaban or xarelto or apixaban or eliquis or dabigatran or pradaxa or argatroban or exembol).ti,ab.
13	or/1-12

Embase search terms

1	*antithrombocytic agent/ or *acetylsalicylic acid/ or *acetylsalicylic acid plus clopidogrel/ or *acetylsalicylic acid plus dipyridamole/ or *clopidogrel/ or *dipyridamole/ or *prasugrel/ or *ticagrelor/
2	aspirin.ti,ab.
3	(clopidogrel or plavix).ti,ab.
4	(ticagrelor or brilique).ti,ab.
5	(prasugrel or efient or effient or prasita).ti,ab.
6	(dipyridamole or persantin or asasantin).ti,ab.
7	(tirofiban or aggrastat).ti,ab.
8	(antiplatelet* or (platelet* adj2 (inhibit* or antagon*))).ti,ab.
9	*anticoagulant agent/ or *antivitamin k/ or *phenindione/
10	*coumarin anticoagulant/ or *acenocoumarol/ or *phenprocoumon/ or *warfarin/
11	*blood clotting factor 10a inhibitor/ or *apixaban/ or *rivaroxaban/
12	*thrombin inhibitor/ or *argatroban/ or *dabigatran/ or *dabigatran etexilate/
13	warfarin.ti,ab.

14	(acenocoumarol or phenprocoumon or phenidione or (vitamin k adj2 antagonist*)).ti,ab.
15	((factor xa adj2 inhibit*) or rivaroxaban or xarelto or apixaban or eliquis or dabigatran or pradaxa or argatroban or exembol).ti,ab.
16	or/1-15

Cochrane search terms

#1	MeSH descriptor: [Platelet Aggregation Inhibitors] this term only
#2	MeSH descriptor: [Aspirin] this term only
#3	MeSH descriptor: [Dipyridamole] this term only
#4	aspirin:ti,ab
#5	(clopidogrel or plavix):ti,ab
#6	(ticagrelor or brilique):ti,ab
#7	(prasugrel or efiend or effient or prasita):ti,ab
#8	(dipyridamole or persantin or asasantin):ti,ab
#9	(tirofiban or aggrastat):ti,ab
#10	(antiplatelet* or (platelet* near/2 (inhibit* or antagon*))) :ti,ab
#11	MeSH descriptor: [Anticoagulants] this term only
#12	MeSH descriptor: [Acenocoumarol] this term only
#13	MeSH descriptor: [Coumarins] this term only
#14	MeSH descriptor: [Phenindione] this term only
#15	MeSH descriptor: [Phenprocoumon] this term only
#16	MeSH descriptor: [Warfarin] this term only
#17	MeSH descriptor: [Antithrombins] this term only
#18	warfarin:ti,ab
#19	(acenocoumarol or phenprocoumon or phenidione or (vitamin k near/2 antagonist*)):ti,ab
#20	((factor xa near/2 inhibit*) or rivaroxaban or xarelto or apixaban or eliquis or dabigatran or pradaxa or argatroban or exembol):ti,ab
#21	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20

A.3.5 Monitoring

What is the clinical and cost effectiveness of systematic monitoring of patients with AF?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	Monitoring		SRs RCTs Observational (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

Monitoring search terms

Medline search terms

1	monitoring, physiologic/
2	drug monitoring/
3	"continuity of patient care"/
4	*self care/ or self administration/

5	ambulatory care facilities/ or community health centers/ or outpatient clinics, hospital/
6	patient-centered care/
7	*telemedicine/ and (monitor* or followup or follow-up).ti,ab.
8	*home care services/ and telemetry/ and (monitor* or followup or follow-up).ti,ab.
9	((followup or follow-up or outpatient or speciality or anticoagulation or anti-coagulation) adj3 (clinic or clinics* or appointment* or review* or monitor*)).ti,ab.
10	((open or drop-in) adj2 (clinic or clinics)).ti,ab.
11	(time in adj3 range).ti,ab.
12	((regular or short-term or frequent or frequency or infrequent or continuous or continual or intermittent or irregular or schedule or scheduled) adj3 (monitor* or followup* or follow-up* or review or reviews or checkup* or check-up*)).ti,ab.
13	((measur* or review* or check-up* or followup* or follow-up* or monitor*) adj6 (coagulation or rate or rhythm) adj2 control).ti,ab.
14	((review* or check-up* or followup* or follow-up* or monitor*) adj3 (symptom* or asymptom*)).ti,ab.
15	(self-refer* or self-monitor* or self-test* or home-monitor*).ti,ab.
16	((maintenance or maintain*) adj3 (target range or therapeutic range or ttr or tir)).ti,ab.
17	(symptom* adj2 (diary or diaries)).ti,ab.
18	or/1-17

Embase search terms

1	((followup or follow-up or outpatient or speciality or anticoagulation or anti-coagulation) adj3 (clinic or clinics* or appointment* or review* or monitor*)).ti,ab.
2	((open or drop-in) adj2 (clinic or clinics)).ti,ab.
3	(time in adj3 range).ti,ab.
4	((regular or short-term or frequent or frequency or infrequent or continuous or continual or intermittent or irregular or schedule or scheduled) adj3 (monitor* or followup* or follow-up* or review or reviews or checkup* or check-up*)).ti,ab.
5	((measur* or review* or check-up* or followup* or follow-up* or monitor*) adj6 (coagulation or rate or rhythm) adj2 control).ti,ab.
6	((review* or check-up* or followup* or follow-up* or monitor*) adj3 (symptom* or asymptom*)).ti,ab.
7	(self-refer* or self-monitor* or self-test* or home-monitor*).ti,ab.
8	((maintenance or maintain*) adj3 (target range or therapeutic range or TIR or TTR)).ti,ab.
9	(symptom* adj2 (diary or diaries)).ti,ab.
10	*patient monitoring/ or *ambulatory monitoring/ or *home monitoring/ or *self monitoring/ or *telemonitoring/
11	*drug monitoring/
12	*physiologic monitoring/
13	*outpatient care/
14	*outpatient department/
15	"evaluation and follow up"/
16	*aftercare/
17	*self care/
18	*drug self administration/
19	*community care/ or *health center/
20	*telemedicine/ and (monitor* or followup or follow-up).ti,ab.
21	or/1-20

Cochrane search terms

#1	MeSH descriptor: [Monitoring, Physiologic] this term only
#2	MeSH descriptor: [Drug Monitoring] this term only
#3	MeSH descriptor: [Continuity of Patient Care] this term only
#4	MeSH descriptor: [Self Care] this term only
#5	MeSH descriptor: [Self Administration] this term only
#6	MeSH descriptor: [Ambulatory Care Facilities] this term only
#7	MeSH descriptor: [Community Health Centers] this term only
#8	MeSH descriptor: [Outpatient Clinics, Hospital] this term only
#9	MeSH descriptor: [Patient-Centered Care] this term only
#10	((followup or follow-up or outpatient or speciality or anticoagulation or anti-coagulation) near/3 (clinic or clinics or appointment* or review or reviews or monitor*)):ti,ab
#11	((open or drop-in) next/2 (clinic or clinics)):ti,ab
#12	("time in") next/3 range):ti,ab
#13	((regular or short-term or frequent or frequency or infrequent or continuous or continual or intermittent or irregular or schedule or scheduled) near/3 (monitor* or followup* or follow-up* or review or reviews or checkup* or check-up*)):ti,ab
#14	((measur* or review* or checkup* or check-up* or followup* or follow-up* or monitor*) near/6 (coagulation or rate or rhythm) near/2 control):ti,ab
#15	((review* or checkup* or check-up* or followup* or follow-up* or monitor* or diary or diaries) near/3 (symptom* or asymptom*)):ti,ab
#16	(self-refer* or self-monitor* or self-test* or home-monitor*):ti,ab
#17	((maintenance or maintain*) near/3 ("therapeutic range" or "target range" or TTR or TIR)):ti,ab
#18	MeSH descriptor: [Telemedicine] this term only
#19	(followup* or follow-up* or monitor*):ti,ab
#20	#18 and #19
#21	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #20

A.3.6 Left Atrial Appendage Occlusion

What is the clinical and cost effectiveness of left atrial appendage occlusion compared to anti-thrombotic therapy in the prevention of stroke in people with AF?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	LAAO		SRs RCTs (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

LAAO terms

Medline search terms

1	atrial appendage/
2	((heart or atrial or atrium or auricular) adj2 appendage* adj3 (occlu* or clip* or block* or exclu* or clos* or remov*)):ti,ab.
3	(lao or plao or watchman or plaato).ti,ab.
4	or/1-3

Embase search terms

1	*heart atrium appendage/
2	((heart or atrial or atrium or auricular) adj2 appendage* adj3 (occlu* or clip* or block* or exclu* or clos* or remov*)):ti,ab.
3	(laao or plaao or watchman or plaato).ti,ab.
4	or/1-3

Cochrane search terms

#1	MeSH descriptor: [Atrial Appendage] this term only
#2	((heart or atrial or atrium or auricular) near/2 appendage* near/3 (occlu* or clip* or block* or exclu* or clos* or remov*)):ti,ab
#3	(laao or plaao or watchman or plaato):ti,ab
#4	#1 or #2 or #3

A.3.7 Rate

What is the clinical and cost-effectiveness of using different rate control drug strategies in the pharmacological management of AF?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	Rate		SRs RCTs (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

Rate search terms

Medline search terms

1	exp digoxin/
2	(digoxin or lanoxin).ti,ab.
3	amiodarone/
4	(amiodarone or cordarone).ti,ab.
5	(dronedarone or multaq).ti,ab.
6	exp calcium channel blockers/
7	(calcium adj3 (block* or inhibit* or antagonist*)):ti,ab.
8	(amlodipine or amlostin or istin or exforge or diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or felodipine or cardioplen or felogen or felotens or keloc or neofel or parmide or vascalpha or plendil or isradipine or prescal or lacidipine or motens or lercanidipine or zanidip or nicardipine or cardene or nifedipine or adalat or adipine or coracten or fortipine or nifedipress or tensipine or valni or nimodipine or nimotop or verapamil or zolvera or cordilox or securon or univer or verapress or vertab).ti,ab.
9	exp adrenergic beta-antagonists/
10	((beta or b) adj3 (block* or antagonist*)):ti,ab.
11	(propranolol or angilol or angilol or inderal-1a or half-inalderal or inderal or bedranol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardiacor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or esmolol or brevibloc or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or sotalol or beta-cardone or sotacor or timolol or betim).ti,ab.

12	(rate adj2 (drug* or strateg*)).ti,ab.
13	or/1-12

Embase search terms

1	*digoxin/
2	(digoxin or lanoxin).ti,ab.
3	*amiodarone/
4	(amiodarone or cordarone).ti,ab.
5	*dronedarone/
6	(dronedarone or multaq).ti,ab.
7	exp *calcium channel blocking agent/
8	(calcium adj3 (block* or inhibit* or antagonist*)).ti,ab.
9	(amlodipine or amlostin or istin or exforge or diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or felodipine or cardioplen or felogen or felotens or keloc or neofel or parmid or vascalpha or plendil or isradipine or prescal or lacidipine or motens or lercanidipine or zanidip or nicardipine or cardene or nifedipine or adalat or adipine or coracten or fortipine or nifedipress or tensipine or valni or nimodipine or nimotop or verapamil or zolvera or cordilox or securon or univer or verapress or vertab).ti,ab.
10	exp *beta adrenergic receptor blocking agent/
11	((beta or b) adj3 (block* or antagonist*)).ti,ab.
12	(propranolol or angilol or angilol or inderal-la or half-inalderal or inderal or bedranol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardiacor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or esmolol or brevibloc or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or sotalol or beta-cardone or sotacor or timolol or betim).ti,ab.
13	(rate adj2 (drug* or strateg*)).ti,ab.
14	or/1-13

Cochrane search terms

#1	MeSH descriptor: [Digoxin] explode all trees
#2	(digoxin or lanoxin):ti,ab
#3	MeSH descriptor: [Amiodarone] this term only
#4	(amiodarone or cordarone):ti,ab
#5	(dronedarone or multaq):ti,ab
#6	MeSH descriptor: [Calcium Channel Blockers] explode all trees
#7	(calcium near/3 (block* or inhibit* or antagonist*)):ti,ab
#8	(amlodipine or amlostin or istin or exforge or diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or felodipine or cardioplen or felogen or felotens or keloc or neofel or parmid or vascalpha or plendil or isradipine or prescal or lacidipine or motens or lercanidipine or zanidip or nicardipine or cardene or nifedipine or adalat or adipine or coracten or fortipine or nifedipress or tensipine or valni or nimodipine or nimotop or verapamil or zolvera or cordilox or securon or univer or verapress or vertab):ti,ab
#9	MeSH descriptor: [Adrenergic beta-Antagonists] explode all trees
#10	((beta or b) near/3 (block* or antagonist*)):ti,ab
#11	(propranolol or angilol or angilol or inderal-la or half-inalderal or inderal or bedranol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardiacor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or esmolol or brevibloc or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard

	or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or sotalol or beta-cardone or sotacor or timolol or betim).ti,ab
#12	(rate near/2 (drug* or strateg*)):ti,ab
#13	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12

A.3.8 Rhythm

Searches for the following three questions were run as one search:

What is the most clinical and cost effective antiarrhythmic drug alone or in combination for maintaining sinus rhythm in (a) paroxysmal AF and (b) persistent AF after cardioversion?

What is the most clinical and cost effective means of (excluding ablation) restoring sinus rhythm (a) pharmacological cardioversion, (b) electrical cardioversion or (c) electrical cardioversion combined with antiarrhythmic drugs?

What is the clinical and cost effectiveness of rhythm control (excluding ablation) compared to rate control in the treatment of AF in reducing stroke or improving prognosis?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	Rhythm		SRs RCTs (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

Rhythm search terms

Medline search terms

1	anti-arrhythmia agents/
2	(rhythm adj2 (control* or strateg*)):ti,ab.
3	flecainide/
4	(flecainide or flecanide).ti,ab.
5	propafenone/
6	(propafenone or propafanone or propiophenones).ti,ab.
7	amiodarone/
8	(amiodarone or cordarone).ti,ab.
9	exp adrenergic beta-antagonists/
10	(propranolol or angilol or angilol or inderal-la or half-inderal or inderal or bedranol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardicor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or esmolol or brevibloc or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or sotalol or beta-cardone or sotacor or timolol or betim).ti,ab.
11	((beta or b) adj3 (block* or antagonist*)):ti,ab.
12	(dronedarone or multaq).ti,ab.
13	exp calcium channel blockers/
14	(calcium adj3 (block* or inhibit* or antagonist*)):ti,ab.
15	(diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or verapamil or zolvera or cordilox or securon or univer or verapress or vertab).ti,ab.

16	exp digoxin/
17	(digoxin or lanoxin).ti,ab.
18	disopyramide/
19	(disopyramide or rythmodan).ti,ab.
20	(vernakalant or vernakalent).ti,ab.
21	magnesium sulfate/
22	magnesium.ti,ab.
23	(cardiovert* or cardioversion*).ti,ab.
24	electric countershock/
25	(electroversion* adj1 (cardiac or therap*)).ti,ab.
26	((countershock* or conversion*) adj1 (electr* or dc)).ti,ab.
27	or/1-26
28	exp pacemaker, artificial/
29	(pacemaker* or pace maker*).ti,ab.
30	or/28-29
31	(rhythm or rate).ti,ab.
32	30 and 31
33	27 or 32

Embase search terms

1	*antiarrhythmic agent/
2	(rhythm adj2 (control* or strateg*)).ti,ab.
3	*flecainide/
4	(flecainide or flecanide).ti,ab.
5	*propafenone/
6	(propafenone or propafanone or propiophenones).ti,ab.
7	*amiodarone/
8	(amiodarone or cordarone).ti,ab.
9	exp *beta adrenergic receptor blocking agent/
10	(propranolol or angilol or angilol or inderal-la or half-inalderal or inderal or bedranol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardicor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoretic or esmolol or brevibloc or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or sotalol or beta-cardone or sotacor or timolol or betim).ti,ab.
11	((beta or b) adj3 (block* or antagonist*)).ti,ab.
12	*dronedarone/
13	(dronedarone or multaq).ti,ab.
14	exp *calcium channel blocking agent/
15	(calcium adj3 (block* or inhibit* or antagonist*)).ti,ab.
16	(diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or verapamil or zolvera or cordilox or securon or univer or verapress or vertab).ti,ab.
17	*digoxin/
18	(digoxin or lanoxin).ti,ab.
19	*disopyramide/
20	(disopyramide or rythmodan).ti,ab.

21	*vernakalant/
22	(vernakalant or vernakalent).ti,ab.
23	*magnesium sulphate/
24	magnesium.ti,ab.
25	*cardioversion/
26	(cardiovert* or cardioversion*).ti,ab.
27	(electroversion* adj1 (cardiac or therap*)).ti,ab.
28	((countershock* or conversion*) adj1 (electr* or dc)).ti,ab.
29	or/1-28
30	exp *pacemaker/
31	(pacemaker* or pace maker*).ti,ab.
32	or/30-31
33	(rhythm or rate).ti,ab.
34	32 and 33
35	29 or 34

Cochrane search terms

#1	MeSH descriptor: [Anti-Arrhythmia Agents] this term only
#2	(rhythm near/2 (control* or strateg*)):ti,ab
#3	MeSH descriptor: [Flecainide] explode all trees
#4	(flecainide or flecanide):ti,ab
#5	MeSH descriptor: [Propafenone] this term only
#6	(propafenone or propafanone or propiophenones):ti,ab
#7	MeSH descriptor: [Amiodarone] this term only
#8	(amiodarone or cordarone):ti,ab
#9	MeSH descriptor: [Adrenergic beta-Antagonists] explode all trees
#10	(propranolol or angilol or angilol or inderal-1a or half-inderal or inderal or bedranol or prograne or slo-pro or acebutolol or sectral or atenolol or tenormin or bisoprolol or cardicor or emcor or carvedilol or eucardic or celiprolol or celectol or co-tenidone or tenoret or tenoretic or esmolol or brevbloc or labetalol or trandate or metoprolol or betaloc or lopresor or nadolol or corgard or nebivolol or nebilet or hypoloc or oxprenolol or trasicor or slow-trasicor or pindolol or visken or sotalol or beta-cardone or sotacor or timolol or betim):ti,ab
#11	((beta or b) near/3 (block* or antagonist*)):ti,ab
#12	(dronedarone or multaq):ti,ab
#13	MeSH descriptor: [Calcium Channel Blockers] explode all trees
#14	(calcium near/3 (block* or inhibit* or antagonist*)):ti,ab
#15	(diltiazem or optil or tildiem or adizem or angitil or calcicard or dilcardia or dilzem or slozem or viazem or zemtard or verapamil or zolvera or cordilox or securon or univer or verapress or vertab):ti,ab
#16	MeSH descriptor: [Digoxin] explode all trees
#17	(digoxin or lanoxin):ti,ab
#18	MeSH descriptor: [Disopyramide] this term only
#19	(disopyramide or rythmodan):ti,ab
#20	(vernakalant or vernakalent):ti,ab
#21	MeSH descriptor: [Magnesium Sulfate] this term only
#22	magnesium:ti,ab
#23	MeSH descriptor: [Electric Countershock] this term only

#24	(cardiovert* or cardioversion*):ti,ab
#25	(electroversion* near (cardiac or therap*)):ti,ab
#26	((countershock* or conversion*) near (electr* or dc)):ti,ab
#27	#1 or #2 or #3 or #4 or #5 or #6 or #7 or #8 or #9 or #10 or #11 or #12 or #13 or #14 or #15 or #16 or #17 or #18 or #19 or #20 or #21 or #22 or #23 or #24 or #25 or #26
#28	MeSH descriptor: [Pacemaker, Artificial] explode all trees
#29	(pacemaker* or pace maker*):ti,ab
#30	#28 or #29
#31	(rhythm or rate):ti,ab
#32	#30 and #31
#33	#27 or #32

A.3.9 Ablation

Searches for the following three questions were run as one search:

What is the clinical and cost-effectiveness of surgical ablation compared to non ablation therapies?

What is the clinical and cost-effectiveness of percutaneous catheter ablation compared to non ablation therapies?

What is the clinical and cost-effectiveness of surgical ablation compared to catheter ablation in people with AF?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	Ablation		SRs RCTs (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

Ablation search terms

Medline search terms

1	exp ablation techniques/
2	catheter ablation/
3	microwaves/
4	ablat*.ti,ab.
5	((high intens* adj6 focus* ultrasound) or epicor or hifu).ti,ab.
6	(radiofrequency or rfa).ti,ab.
7	(cryotherap* or cryoablat*).ti,ab.
8	((maze or cox-maze) adj2 (surg* or procedure*)).ti,ab.
9	thoracic surgery, video-assisted/
10	((video* adj3 (thoracic surger* or thoroscop*)) or vats or vatss).ti,ab.
11	or/1-10

Embase search terms

1	ablation therapy/
2	catheter ablation/
3	radiofrequency ablation/

4	cryoablation/
5	microwave therapy/
6	ablat*.ti,ab.
7	((high intens* adj6 focus* ultrasound) or epicor or hifu).ti,ab.
8	(radiofrequency or rfa).ti,ab.
9	(cryotherap* or cryoablat*).ti,ab.
10	((maze or cox-maze) adj2 (surg* or procedure*)).ti,ab.
11	((video* adj3 (thoracic surger* or thoracoscop*)) or vats or vatss).ti,ab.
12	*thoracoscopy/
13	or/1-12

Cochrane search terms

#1	MeSH descriptor Ablation Techniques explode all trees
#2	MeSH descriptor Microwaves, this term only
#3	ablat*:ti,ab
#4	((high intens* NEAR/6 focus* ultrasound) or epicor or hifu):ti,ab
#5	(radiofrequency or rfa):ti,ab
#6	(cryotherap* or cryoablat*):ti,ab
#7	((maze or cox-maze) near/2 (surg* or procedure*)):ti,ab
#8	MeSH descriptor: [Thoracic Surgery, Video-Assisted] this term only
#9	((video* near/3 (thoracic surger* or thoracoscop*)) or vats or vatss):ti,ab
#10	(#1 OR #2 OR #3 OR #4 OR #5 OR #6 OR #7 OR #8 OR #9)

A.3.10 Pace and ablate

What is the clinical and cost-effectiveness of atrioventricular junction ablation and pacing compared to usual care in the treatment of AF?

Search constructed by combining the columns in the following table using the AND Boolean operator

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation	Pace and ablate		SRs RCTs (Medline and Embase only)	No date restriction. Searches run up to 3 October 2013

Pace and ablate search terms

Medline search terms

1	(atrioventric* adj3 (ablat* or modif*).ti,ab.
2	(pace or pacing or pacemaker*).ti,ab.
3	1 and 2
4	(ablat* and pace).ti,ab.
5	or/3-4
6	((biventricul* or bi-ventricul* or ((dual or double) adj chamber*) or ((AV or atrioventricular) adj (synchron* or sequential)) or ddd or dddr or ddi or ddir or vdd or vddr or vdi or vdir) adj3 (pace or pacing or pacemaker*).ti,ab.
7	((dual or physiologic*) adj pac*).ti,ab.
8	or/6-7

9	((single or atrial or ventricular) adj pac*).ti,ab.
10	(((single adj (chamber or ventricul*)) or vvi or vvir or aai or aair) adj3 (pace or pacing or pacemaker*).ti,ab.
11	or/9-10
12	8 and 11
13	cardiac resynchroni#ation therap*.ti,ab.
14	exp pacemaker, artificial/
15	exp cardiac pacing, artificial/
16	or/13-15
17	5 or 12 or 16

Embase search terms

1	(atrioventric* adj3 (ablat* or modif*).ti,ab.
2	*atrioventricular nodal ablation/
3	or/1-2
4	(pace or pacing or pacemaker*).ti,ab.
5	3 and 4
6	(ablat* and pace).ti,ab.
7	or/5-6
8	((biventricul* or bi-ventricul* or ((dual or double) adj chamber*) or ((AV or atrioventricular) adj (synchron* or sequential)) or ddd or dddr or ddi or ddir or vdd or vddr or vdi or vdir) adj3 (pace or pacing or pacemaker*).ti,ab.
9	((dual or physiologic*) adj pac*).ti,ab.
10	or/8-9
11	((single or atrial or ventricular) adj pac*).ti,ab.
12	(((single adj (chamber or ventricul*)) or vvi or vvir or aai or aair) adj3 (pace or pacing or pacemaker*).ti,ab.
13	or/11-12
14	10 and 13
15	cardiac resynchroni#ation therap*.ti,ab.
16	exp *pacemaker/
17	exp *heart pacing/
18	or/15-17
19	7 or 14 or 19

Cochrane search terms

#1	(atrioventric* NEAR/3 (ablat* or modif*)):ti,ab
#2	(pace or pacing or pacemaker*):ti,ab
#3	(#1 AND #2)
#4	(ablat* AND pace):ti,ab
#5	(#3 OR #4)
#6	((biventricul* or bi-ventricul* or ((dual or double) NEAR chamber*) or ((AV or atrioventricular) NEAR (synchron* or sequential)) or ddd or dddr or ddi or ddir or vdd or vddr or vdi or vdir) NEAR/3 (pace or pacing or pacemaker*)):ti,ab
#7	((dual or physiologic*) NEAR pac*):ti,ab
#8	((single or atrial or ventricular) NEAR pac*):ti,ab
#9	(((single NEAR (chamber or ventricul*)) or vvi or vvir or aai or aair) NEAR/3 (pace or pacing or pacemaker*)):ti,ab

#10	(#6 OR #7)
#11	(#8 OR #9)
#12	(#10 AND #11)
#13	MeSH descriptor Pacemaker, Artificial explode all trees
#14	MeSH descriptor Cardiac Pacing, Artificial explode all trees
#15	(cardiac resynchroni?ation therap*):ti,ab
#16	(#13 OR #14 OR #15)
#17	(#5 OR #12 OR #16)

A.4 Economics search

A.4.1 Economics search

Economic searches were conducted in Medline, Embase, HEED, and CRD for NHS EED and HTA.

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation			Economic (Medline and Embase only)	Medline and Embase 2010. HEED, CRD EED and HTA no date restriction. Searches run up to 3 October 2013

CRD search terms

#1	MeSH DESCRIPTOR atrial fibrillation IN NHSEED,HTA
#2	((atrial near3 fibrillat*) OR (auricular near3 fibrillat*) OR (supraventricul* near3 *arrhythmia*)) IN NHSEED, HTA
#3	#1 OR #2

HEED search terms

1	ax=atrial or auricular or supraventricul*
2	ax=fibrillat* or arrhythmi*
3	cs=1 and 2

A.4.2 Quality of life search

Quality of life searches were conducted in Medline and Embase.

Population	Intervention / exposure	Comparison	Study filter used	Date parameters
Atrial fibrillation			Quality of life	No date restriction. Searches run up to 3 October 2013

A.5 References

- 1 National Institute for Health and Clinical Excellence. The guidelines manual. London: National Institute for Health and Clinical Excellence; 2012. Available from: <http://publications.nice.org.uk/the-guidelines-manual-pmg6/>