APPENDIX A. MOOSE Checklist for Reporting of Meta-analyses of Observation Studies

Item No	Recommendation	Reported on Page No
Reporting of background should include		
1	Problem definition	4
2	Hypothesis statement	4
3	Description of study outcome(s)	6
4	Type of exposure or intervention used	6
5	Type of study designs used	6
6	Study population	5
Reporting of search strategy should include		
7	Qualifications of searchers (eg, librarians and investigators)	Title page
8	Search strategy, including time period included in the synthesis and key words	5, Figure 1
9	Effort to include all available studies, including contact with authors	5
10	Databases and registries searched	5
11	Search software used, name and version, including special features used (eg, explosion)	5
12	Use of hand searching (eg, reference lists of obtained articles)	5
13	List of citations located and those excluded, including justification	7
14	Method of addressing articles published in languages other than English	-
15	Method of handling abstracts and unpublished studies	5
16	Description of any contact with authors	-
Reporting of methods should include		
17	Description of relevance or appropriateness of studies assembled for assessing the hypothesis to be tested	5
18	Rationale for the selection and coding of data (eg, sound clinical principles or convenience)	5-6
19	Documentation of how data were classified and coded (eg, multiple raters, blinding and interrater reliability)	5
20	Assessment of confounding (eg, comparability of cases and controls in studies where appropriate)	6
21	Assessment of study quality, including blinding of quality assessors, stratification or regression on possible predictors of study results	6
22	Assessment of heterogeneity	6
23	Description of statistical methods (eg, complete description of fixed or random effects models, justification of whether the chosen models account for predictors of study results, dose-response models, or cumulative meta-analysis) in sufficient detail to be replicated	6
24	Provision of appropriate tables and graphics	Table 1, Figures 1-3

Reporting of results should include		
25	Graphic summarizing individual study estimates and overall estimate	Figure 2,3
26	Table giving descriptive information for each study included	Table 1
27	Results of sensitivity testing (eg, subgroup analysis)	8, Figure 3
28	Indication of statistical uncertainty of findings	8, Figure 2-3
Reporting of discussion should include		
29	Quantitative assessment of bias (eg, publication bias)	10
30	Justification for exclusion (eg, exclusion of non-English language citations)	-
31	Assessment of quality of included studies	Appendix
Reporting of conclusions should include		
32	Consideration of alternative explanations for observed results	8-9
33	Generalization of the conclusions (ie, appropriate for the data presented and within the domain of the literature review)	10-11
34	Guidelines for future research	10-11
35	Disclosure of funding source	11

From: Stroup DF, Berlin JA, Morton SC, et al, for the Meta-analysis Of Observational Studies in Epidemiology (MOOSE) Group. Meta-analysis of Observational Studies in Epidemiology. A Proposal for Reporting. *JAMA*. 2000;283(15):2008-2012. doi: 10.1001/jama.283.15.2008.

APPENDIX B. Detailed Search Strategy

EMBASE Search Strategy

1. exp pacemaker/ or exp implantable cardioverter defibrillator/ or exp artificial heart pacemaker/ or exp defibrillator
2. cardiac implantable electronic device.mp.
3. cardiovascular implantable electronic device.mp.
4. pacemaker.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word]
5. defibrillator.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word]
6. cardiac resynchronization therapy.mp. or exp cardiac resynchronization therapy/
7. 1 or 2 or 3 or 4 or 5 or 6
8. device infection.mp. or exp infection/ or exp device infection/
9. infection.mp.
10. 8 or 9
11. reimplantation or exp Reimplantation/
12. 7 and 10 and 11

MEDLINE Search Strategy

1. exp pacemaker/ or exp implantable cardioverter defibrillator/ or exp artificial heart pacemaker/ or exp defibrillator
2. cardiac implantable electronic device.mp.
3. cardiovascular implantable electronic device.mp.
4. pacemaker.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word]
5. defibrillator.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading word]
6. cardiac resynchronization therapy.mp. or exp cardiac resynchronization therapy/
7. 1 or 2 or 3 or 4 or 5 or 6
8. device infection.mp. or exp infection/ or exp device infection/
9. infection.mp.
10. 8 or 9
11. reimplantation or exp Reimplantation/
12. 7 and 10 and 11

Cochrane Library Search Strategy

1. exp pacemaker/ or exp implantable cardioverter defibrillator/ or exp artificial heart pacemaker/ or exp defibrillator
2. cardiac implantable electronic device.mp.

3. cardiovascular implantable electronic device.mp.
4. pacemaker.mp. [mp=ti, ab, tx, kw, ct, ot, sh, hw]
5. defibrillator.mp. [mp=ti, ab, tx, kw, ct, ot, sh, hw]
6. cardiac resynchronization therapy.mp. or exp cardiac resynchronization therapy/
7. 1 or 2 or 3 or 4 or 5 or 6
8. device infection.mp. or exp infection/ or exp device infection/
9. infection.mp.
10. 8 or 9
11. reimplantation or exp Reimplantation/
12. 7 and 10 and 11

APPENDIX C1. Summary of Study Quality Assessment

Study ID	Selection				Comparability	Outcome			Total (⋆)
	Representative-ness of exposed cohort	Selection of non-exposed cohort	Ascertainment of exposure	Outcome shown to be absent at study start		Assessment of outcome	Adequacy of follow up duration	Adequacy of cohort follow up	
Amraoui (2015)	B (⋆)	--	A (⋆)	A (⋆)	--	B (⋆)	A (⋆)	A (⋆)	**6**
Boyle (2017)	A (⋆)	--	A (⋆)	A (⋆)	--	B (⋆)	A (⋆)	A (⋆)	**6**
Chua (2000)	B (⋆)	--	A (⋆)	A (⋆)	--	B (⋆)	A (⋆)	B (⋆)	**6**
Deharo (2012)	B (⋆)	--	A (⋆)	A (⋆)	--	B (⋆)	A (⋆)	A (⋆)	**6**
Molina (1997)	C	--	A (⋆)	B	--	B (⋆)	A (⋆)	D	**3**
Saaed (2014)	B (⋆)	--	A (⋆)	A (⋆)	--	B (⋆)	A (⋆)	A (⋆)	**6**
Tascini (2006)	B (⋆)	--	A (⋆)	A (⋆)	--	B (⋆)	A (⋆)	C (⋆)	**6**
Mountantounakis (2013)	C	--	A (⋆)	A (⋆)	--	B (⋆)	A (⋆)	A (⋆)	**5**

APPENDIX C2. Newcastle Ottawa Quality Assessment Form for Cohort Studies

(Reference: Wells GA et al. The Newcastle-Ottawa Scale (NOS) for assessing the quality of nonrandomised studies in meta-analyses. Available at http://www.ohri.ca/programs/clinical_epidemiology/oxford.asp)

Note: A study can be awarded a maximum of one star for each numbered item within the Selection and Outcome categories. A maximum of two stars can be given for Comparability

Selection

1) Representativeness of the exposed cohort
   a) truly representative of the average _____ (describe) in the community ⍰
   b) somewhat representative of the average _____ in the community ⍰
   c) selected group of users eg nurses, volunteers
   d) no description of the derivation of the cohort

2) Selection of the non exposed cohort
   a) drawn from the same community as the exposed cohort ⍰
   b) drawn from a different source

c) no description of the derivation of the non exposed cohort

3) Ascertainment of exposure
a) secure record (eg surgical records) ☐
b) structured interview ☐
c) written self report
d) no description

4) Demonstration that outcome of interest was not present at start of study
a) yes ☐
b) no

Comparability

1) Comparability of cohorts on the basis of the design or analysis
a) study controls for _____ (select the most important factor) ☐
b) study controls for any additional factor ☐ (This criteria could be modified to indicate specific control for a second important factor.)

Outcome

1) Assessment of outcome
a) independent blind assessment ☐
b) record linkage ☐
c) self report
d) no description

2) Was follow-up long enough for outcomes to occur
a) yes (select an adequate follow up period for outcome of interest) ☐
b) no

3) Adequacy of follow up of cohorts
a) complete follow up - all subjects accounted for ☐
b) subjects lost to follow up unlikely to introduce bias - small number lost - > ____ % (select an adequate %) follow up, or description provided of those lost) ☐
c) follow up rate < ____% (select an adequate %) and no description of those lost
d) no statement