

## Appendix F – Excluded Studies

### 1 Clinical Evidence

#### 1.1 Initial stage: 12-lead ECG review (automatic versus clinician read)

Study	Reason for exclusion
Aizer 2008	fewer than 20 patients
Augustyniak 2008	not primary study
Azie 2004	fewer than 20 patients
Badilini 2006	not life-threatening arrhythmias
Badilini 2006b	not automated versus manual methods
Bhullar 1993	not diagnostic test accuracy
Censi 2008	not automated versus clinician read ECG
Christov 2006	not automated versus clinician read ECG
Darpo 2006	not diagnostic test accuracy
de Chazal 2004	not 12 lead ECG
Dekker 2004	not number of patients with life-threatening arrhythmia
Dilaveris 1999	not automated versus clinician read ECG
Dota 2009	not diagnostic test accuracy
Drew 2004	not primary study
Glancy 1996	outcome not life-threatening arrhythmias
Grove 1978	not automated versus clinician ECGs
Hekkala 2006	not automated versus clinician ECG reading
Hnatkova 2006	outcome not life-threatening arrhythmias
Hulting 1979	not diagnostic test accuracy
Ince 2008	not 12 lead ECG
Ireland 2000	fewer than 20 patients
Jenkins 1983	review not primary study
Katoh 2003	not automated versus clinician read ECG
Kautzner 2002	review not primary study
Kenigsberg 2007	no data comparing automated versus clinician readings
Laguna	not automated versus clinician
Langley 2001	manual reading only
Study	Reason for exclusion

Langley 2006	not automated versus clinician read ECG
Lau 2001	not automated versus clinician read ECG
Lau 2002	manual reading only
LeBlanc 1986	review not primary study
Ligtenberg 1983	fewer than 20 patients and not 12 lead ECG
Macfarlane 1976	unclear if 3- or 12-lead ECG and full data not shown
Madias 2008	not diagnostic test accuracy
Malik 2004	not automated versus clinician ECG reading
Marenco 2003	not diagnostic test accuracy
Martinez 2006	not automatic ECG versus clinician
McLaughlin 1996	not diagnostic test accuracy
Miller 2001	not automated versus clinician
Morganroth 1993	not diagnostic test accuracy
Morlet 1993	not automatic versus clinician ECG reading
Murray 1997	not diagnostic test accuracy
Sarapa 2004	not diagnostic test accuracy
Sarubbi 2000	not diagnostic test accuracy
Scolari 2008	not automated versus clinician
Thomas 2007	not diagnostic test accuracy
Tong	does not state 12 lead ECG
Vecchietti 2004	fewer than 20 patients
Watanabe 2003	review not primary study
Weinfurt 1990	review not primary study

## **1.2 Ambulatory ECG, exercise testing, CSM and tilt test reviews**

<b>Study name</b>	<b>Reason for exclusion</b>
Aerts 2003	Review not primary study
Akhtar 1980	Fewer than 20 participants with syncope
Alboni 2004	Not our clinical questions
Alboni 2009	Review not primary study
Alshekhlee 2009	Not our clinical questions
Ammirati 2000	Not our clinical questions
Armstrong 2003	Fewer than 20 participants
Aronow 2008	Review not primary study
Aronow 2009	Review not primary study
Assar 2003	Duplicate of existing included study

<b>Study name</b>	<b>Reason for exclusion</b>
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Austin 2008	Not our clinical questions
Aydin 2009	Not our clinical questions
Bailey 1993	Not our clinical questions
Balmelli 2003	Syncope/presyncope not reported separately
Barletta 2004	fewer than 20 patients with syncope
Baron-Esquivas 2002	Not our clinical questions
Baron-Esquivas 2004	Not our clinical questions
Bartoletti 2000	Review not primary study
Benbadis 1996	Not our clinical questions
Ben-Chetrit 1985	Unclear which patients had each test (subgroups of larger study)
Benito 2008	not our clinical questions
Berkovic 1984	Not our clinical questions
Berul 1999	fewer than 20 patients with syncope
Blanc 1993	Fewer than 20 participants
Bordier 2005 (CSM)	Fewer than 20 participants
Bordier 2005 (Holter)	Fewer than 20 participants
Bordier 2005 (HUT)	Fewer than 20 participants
Brignole 1992 (Eur JCPE)	review not primary study
Brown 1980	Syncope/presyncope not reported separately
Brown 1987	Syncope/presyncope not reported separately
Byrne 2009	Editorial
Cain 1996	not our clinical questions
Calkins 1991	Fewer than 20 participants
Calkins 1995	Not our clinical questions
Carew 2009	Not our clinical questions
Chen 2008	Review not primary study
Cheung 2004	Not our clinical questions
Chrysostomakis 2003	Not our clinical questions
Colivicchi 2004	Fewer than 20 participants
Cooke 2009	Not our clinical questions
Croci 2002	Not our clinical questions
Crotti 2008	review not primary study
Cuomo 2004	not our clinical questions
Dabrowski 1993	not our clinical questions
Day 1982	Not our clinical questions
Del Rosso 2000	Fewer than 20 participants
Denes 1987	Syncope/presyncope not reported separately

Study	Reason for exclusion
Dickhaus 2005	Not our clinical questions

Dilaveris 2009	Not our clinical questions
DiMarco 1990	Review not primary study
Dougnac 1991	Unclear which patients had each test (subgroups of larger study)
Dren 2005	review not primary study
Efthimiadis 2009	Fewer than 20 patients with syncope
El-Bedawi 1994	Not our clinical questions
Englund 1998	not our clinical questions
Englund 1999	not our clinical questions
Entem 2009	not our clinical questions
Facknell 2009	Letter
Fish 1992	Not adults
Fitzpatrick 1989	Duplicate of existing included study
Fitzpatrick 1991	Fewer than 20 participants
Fitzpatrick 1991	Fewer than 20 participants
Fitzpatrick 1991	Fewer than 20 participants
Flint 2009	Not our clinical questions
Foglia-Manzillo 2002	Not our clinical questions
Fontaine 1992	Syncope/presyncope not reported separately
Furlanello 2004	Syncope/presyncope not reported separately
Futterman 2002	Review not primary study
Galizia 2009	Cross sectional study
Gamm 1978	Syncope/presyncope not reported separately
Gang 1986	Not our clinical questions
Garcia-Civera 2003	Fewer than 20 participants
Gatzoulis 2009	not our clinical questions
Georgeson 1992	not our clinical questions
Goldenberg 2008	review not primary study
Goldner 1994	Not our clinical questions
Gooch 1976	Syncope/presyncope not reported separately
Gossinger 1991	Not our clinical questions
Grubb 1991	Fewer than 20 participants
Gula 2009	syncope patients not reported separately
Gulli 2003	Not our clinical questions
Gutiu 1992	Not our clinical questions
Hagege 2009	Not our clinical questions
Iacoviello 2008	not our clinical questions
Ikeda 2005	not our clinical questions
Josephson 2007	Not our clinical questions
Junttila 2008	not our clinical questions
Kaleschke 2009	Not our clinical questions

Study	Reason for exclusion
Kanjwal 2009	Not our clinical questions
Kapoor 1999	Review not primary study
Kaufman 2009	Not our clinical questions

Kenny 1991	fewer than 20 patients with syncope
Kenny 1999	Review not primary study
Khurana 1996	Fewer than 20 participants
Kocabas 2009	Not our clinical questions
Kochanska 2008	Not our clinical questions
Kouakam 2009	Fewer than 20 patients
Krahn 1995	Fewer than 20 participants
Krahn 1997	Fewer than 20 participants
Krahn 2001	Duplicate of existing included study
Krahn 2003	Review not primary study
Krahn 2004	Review not primary study
Kuchar 1985	not our clinical questions
Kuchar 1986	not our clinical questions
Kuck 1997	review not primary study
Kus 1995	Fewer than 20 participants
Laborderie 2008	Fewer than 20 patients
Lamarre-Cliché 2001	Review not primary study
Lansdowne 1990	review not primary study
Lelonek 2009	not our clinical questions
Levine 2008	review not primary study
Liao 2009	Review not primary study
Lindsay 1986	not our clinical questions
Lipski 1976	Syncope/presyncope not reported separately
Ma 2009	Fewer than 20 patients with syncope
Marsh 2008	review not primary study
Martin 1984	Not our clinical questions
Martinez 2004	Fewer than 20 participants with syncope
Massin 2008	Children
McCarthy 2009	Not our clinical questions
McGarry	Review not primary study
McIntosh 1993	not our clinical questions
McIntosh 1993b	not our clinical questions
Mendu 2009	Not our clinical questions
Mershon 1972	Case reports
Messerli 1984	Not our clinical questions
Mieszczanska 2001	Fewer than 20 participants
Minoura 2008	not our clinical questions
Monnig 2006	not our clinical questions

<b>Study</b>	<b>Reason for exclusion</b>
Moore 2009	Not our clinical questions
Morady 2006	Duplicate of existing included study
Morady 2008	Summary of primary study
Morita 2008	not our clinical questions
Moya 2008	not our clinical questions

Murdock 1990	Fewer than 20 participants
Nagaoka 2008	not our clinical questions
Naschitz 2004	Not our clinical questions
National Horizon Scanning Centre 2002	Review not primary study
National Horizon Scanning Centre 2004	Review not primary study
Ng 2004	Syncope/presyncope not reported separately
Oddone 1991	Fewer than 20 participants
Oddone 1991	Fewer than 20 participants
Oliveira 2008	Not our clinical questions
Panther 1998	Not our clinical questions
Parry 2009	Not our clinical questions
Pfister 2009	Not our clinical questions
Pires 2001	Not our clinical questions
Priori 1994	not our clinical questions
Puggioni 2002	not our clinical questions
Puisieux 2000	Not our clinical questions
Quinn 2009	Commentary not primary study
Rana 1989	Syncope/presyncope not reported separately
Rao 2007	Review not primary study
Reiff 2004	Review not primary study
Roche 1997	Syncope/presyncope not reported separately
Romero 1976	Review not primary study
Sanfins 2003	Fewer than 20 participants
Sarasin 2003	Unclear which patients had each test (subgroups of larger study)
Schmidt 1998	Fewer than 20 participants
Schuchert 2005	Not our clinical questions
Schwartz 1975	review not primary study
Sharma 1984	review not primary study
Shiyovich 2008: exercise test	Unclear which patients had each test (subgroups of larger study)
Shukla 2004	Not our clinical questions
Simek 2005	Not our clinical questions
Simeon 2005	review not primary study
Sivakumaran 2003	Duplicate of existing included study
Sodeck 2007	Not our clinical questions

<b>Study</b>	<b>Reason for exclusion</b>
Solano 2004	Duplicate of existing included study
Sorrentino 2009	not our clinical questions
Spirito 2009	Not our clinical questions
Sreeram 2008	Not adults
Steinberg 1994	not our clinical questions
Sud 2009	not our clinical questions

Sulfi 2008	'Altered consciousness' not necessarily syncope/presyncope
Sun 2008	not our clinical questions
Suzuki 2006	Unclear which patients had each test (subgroups of larger study); some groups too small
Task Force 2009	Review not primary study
Tateoka 2007	Fewer than 20 participants
Timoteo 2008	Not our clinical questions
Toorap 2009	Not our clinical questions
Turley 2009	Not our clinical questions
Vaddadi 2007	Review not primary study
Ward 1980	Syncope/presyncope not reported separately
Wilkoff 2009	Not our clinical questions
Winkle 1981	Review not primary study
Winters 1988	not our clinical questions
Yontar 2008	review not primary study
Zeng 2008	Not our clinical questions
Zhang 2008	Fewer than 20 patients in each group
Zhang 2009	Children
Zimetbaum 1997	Syncope/presyncope not reported separately
Zysko 2009	Not our clinical questions

## 1.3 Pacemaker reviews

### 1.3.1 Tilt test

Study name	Reason for exclusion
Ammirati 1998	Sample size too small: 8 patients randomised to DDD pacing + rate hysteresis and 11 to DDD with drop rate function
Fitzpatrick 1991	Sample size too small: 10 patients in crossover trial comparing DVI pacing with rate hysteresis versus no pacing
Flammang 1999	Sample size too small: 10 randomised to DDD pacemaker (no details) and 10 to usual care
Occhetta 2004 (INVASY)	Sample size too small: 17 randomised to DDD pacemaker with closed loop stimulation and 9 to DDD pacemaker in DDI backup mode
Raviele 2004 (SYNPACE)	Sample size too small: DDD pacemaker with drop rate response switched on in 16 patients and pacemaker off 13 patients
Sutton 2000 (VASIS)	Sample size too small: 19 patients assigned to DDD pacemaker with rate hysteresis versus 23 patients with no pacemaker

### 1.3.2 CSM

Study name	Reason for exclusion
Benditt 1997	fewer than 20 patients with CSS
Bexton 1997	Abstract only; insufficient detail to include (e.g. no length of follow up stated)
Blanc 1995	not our clinical questions
Böhm 1998	not our clinical questions
Bottero 1990	not pacemaker versus none/other intervention/placebo
Brignole 1988	RCT fewer than 20 patients in each arm; preliminary results from Brignole 1992c
Brignole 1988b	RCT comparison of DVI/DDD versus VVI modes in a crossover design.
Brignole 1989	duplicate of Brignole 1988b
Brignole 1990	not pacemaker versus none/other intervention/placebo
Brignole 1991	duplicate of Brignole 1992c
Brignole 1992d	review not primary study
Brignole 2001b	recommendations for treatment not primary study
Brignole 2003	review not primary study
Crilley 1997	not pacemaker versus none/placebo/other treatment
Denes 1985	fewer than 20 patients with carotid sinus hypersensitivity
Gaggioli 1995	not pacemaker versus none/other intervention/placebo
Gersh 1984	not primary study
Girodo 1990	fewer than 20 patients
Homoud 2002	duplicate of Kenny 2001
Huang 1988	Not randomised trial
Karunaratne 2002	fewer than 20 patients



Study name	Reason for exclusion
Kay 1988	fewer than 20 patients with carotid sinus hypersensitivity
Kenny 1999	protocol of study only
Kenny 1999b	protocol of study only
Kenny 2001b	duplicate of Kenny 2001
Lagi 1991	not pacemaker versus none/other intervention/placebo
Maggi 2007	fewer than 20 patients with pacemaker
McIntosh 1997	relevant outcomes not reported; 37% drop out from 1 arm of study
Morley 1982	not pacemaker versus none/other intervention/placebo
Nelson 1987	fewer than 20 patients
Nishizaki 1994	fewer than 20 patients
Parry 2009	not syncope
Peretz 1973	fewer than 20 patients
Peretz 1985	not pacemaker versus none/other intervention/placebo
Richardson 2000	duplicate of Kenny 2001
Richardson 2001	thesis - unavailable
Romme 2009	Protocol for review not primary study
Schellack 1986	not pacemaker versus none/other intervention/placebo
Seifer 2003	not syncope
Sgarbossa 1992	Not carotid sinus hypersensitivity
Shaw 1998	not primary study
Simon 1982	fewer than 20 patients with carotid sinus hypersensitivity
Solomon 1999	review not primary study
Sotti 1980	no usable data
Strasberg 1985	Not randomised
Streian 2006	fewer than 20 patients with pacemaker
Stryjer 1985	not pacemaker versus none/other intervention/placebo
Stryjer 1986	not pacemaker versus none/other intervention/placebo
Sugrue 1986)	Not randomised
Sutton 1989	relevant outcomes not reported
Turner 2000	case report only
von Lehe 1971	case report only
von Maur 1972	case report only
Voss 1970	case report only
Walter 1978	fewer than 20 patients
Woie 1973	case report only
Zaman 1983	fewer than 20 patients with syncope

#### **1.4 *Diagnostic test accuracy of tests to support pacing***

<b>Study</b>	<b>Reason for exclusion</b>
Fang 2000	did not fulfill all inclusion criteria
Ludovice 2006	did not fulfill all inclusion criteria
Thwaites 1999	did not fulfill all inclusion criteria
Tonnessen 1994	did not fulfill all inclusion criteria
Zaidi 2000	did not fulfill all inclusion criteria

## 2 Health Economic Evidence

Study	Reason for exclusion
Adams 1993	Not an economic evaluation
Ammirati 2008	Non comparative study
Benditt 1996	Not an economic evaluation
Benditt 2003	Not an economic evaluation
Blanc 2005	Not an economic evaluation
Bourdeaux 2005	Compares alternative models of service delivery not clinical care
Brignole 2006	Compares a standardized-care pathway with usual management using historical controls. Excluded due to methodological weakness of study design.
Del Greco 2003	Compares care before and after the introduction of a management protocol. Excluded due to methodological weakness of study design.
Farwell 2002	Non comparative study
Farwell 2004a	Compares care before and after the introduction of a management protocol. Excluded due to methodological weakness of study design.
Fitchet 2003	Not an economic evaluation. Reports local estimates of unit cost for index and comparator tests only.
Fogel 1997	Non comparative study
Getchell 2000	Non comparative study
Heaney 2007	Non comparative study
Kenny 2002	Non comparative study
Krahn 2003, J Cardiovasc Electrophysiol	Not an economic evaluation
Link 2001	Not an economic evaluation
Martin 1998	Non comparative study
Mulaudzi 2005	Population is patients with transient ischemic attack
Nowack 2002	Not an economic evaluation
Roccella 1990	Not an economic evaluation
Shen 2004	No cost data presented
Shihabuddin 1994	Case report
Wagner 2005	Non comparative study
Whitaker 2001	Not an economic evaluation
Willan 2003	Not addressing relevant guideline question (treatment with pacemaker)