

I.1 Excluded clinical studies

Table 29: Studies excluded from the clinical review- OSAHS

Study	Exclusion reason
Afshar 2020 ¹	Systematic review. Screened for relevant references.
Al Zuheibi 2013 ²	Randomised trial comparing effects of APAP alone (autoadjusting CPAP), to APAP with C-Flex (expiratory pressure relief) and to APAP with A-Flex (pressure relief at end of inspiration and onset of expiration) on comfort, compliance, AHI and treatment pressures - no fixed CPAP arm
Almasri 2007 ³	Study of different humidifying units plus CPAP
Aloia 2001 ⁶	CBT
Aloia 2004 ⁵	Review article
Aloia 2005 ⁷	CPAP or C-flex given in a sequential, non-randomised order
Aloia 2005a ⁴	Not randomised
Anderson 2003 ⁸	Study assessing oral versus nasal interface of CPAP
Bachour 2004 ⁹	Study assessing chinstrap over a 2-night laboratory titration study
Ball 2011 ¹²	Randomised, double-blind cross-over trial comparing effects of auto-titrating BiPAP versus standard BiPAP on AHI and treatment pressure - no fixed CPAP arm / study duration 2 days
Ballard 2007 ¹³	Inappropriate intervention - Bi-level PAP (multimodality)
Bakker 2010 ¹¹	Inappropriate intervention -CPAP with expiratory pressure relief
Bardwell 2007 ¹⁴	Placebo-controlled trial
Bastos 2013 ¹⁵	Comparison of effects of high span versus low span autoadjusting CPAP on compliance, AHI and treatment pressure

Study	Exclusion reason
	- no fixed CPAP arm
Becker 1991 ¹⁶	Non randomised study of treatment failure in central sleep apnoea
Becker 1998 ¹⁷	Review article
Berry 2002 ¹⁸	Review article
Berthon-Jones 1996 ¹⁹	Non randomised study of APAP for OSA treatment
Bielicke 2008 ²⁰	Comparison of effects of auto-titrating CPAP (APAP) versus auto-titrating CPAP with expiratory pressure relief (A-Flex) on AHI - no fixed CPAP arm, study duration 2 nights
Blau 2009 ²¹	Comparison of AutoCPAP with A-Flex (AutoCPAP with pressure relief during expiration)
Blau 2012 ²²	Inappropriate intervention - Bi-level PAP (multimodality)
Boudewyns 1999 ²⁶	Non randomised study of CPAP treatment
Boyer 2019 ²⁷	Device no longer used- the ICON+ auto CPAP machine was discontinued on 31/8/18 (information from eu-pap.co.uk)
Bradshaw 2004 ²⁸	Effect of nose drops
Brammer 1999 ²⁹	Not randomised
Buyse 2003 ^{30, 31}	Different algorithms of 2 auto-CPAP compared to each other.
Canisius 2007 ³²	Inadequate duration
Chan 2004 ³⁵	Study assessing interface chamber of CPAP
Chervin 1997 ³⁷	Educational/psychosocial intervention
Chihara 2012 ^{38, 39}	Randomised trial comparing effects of APAP (autoadjusting PAP), APAP with C-Flex (expiratory pressure relief) or APAP with A-Flex (pressure relief at end inspiration and start of exhalation) on compliance, ESS, QoL - no fixed CPAP arm
Colrain 2007 ⁴¹	Inadequate duration

Study	Exclusion reason
Constantinidis 2000 ⁴²	Non randomised study of nasal mucosal tissue changes with CPAP treatment
Coughlin 2004 ⁴⁶	CPAP versus sub-therapeutic pressure of CPAP
Cross 2005 ⁴⁸	Study assessing efficacy of CPAP
Cumin 2011 ⁴⁹	Randomised, cross-over trial comparing effect of fixed CPAP versus CPAP SensAwake on overnight PSG parameters - overnight study only
Damjanovic 2005 ⁵²	Educational/psychosocial support
Delwiche 2003 ⁵³	Comparison between different auto-CPAP devices
Dolan 2008 ⁵⁴	Inappropriate intervention -CPAP with expiratory pressure relief
Dungan 2010 ⁵⁵	Comparison of effects of conventional autoadjusting CPAP versus new autoCPAP device (SensAwake - pressure reduction during awakenings) on overnight PSG parameters - overnight study only / no fixed CPAP arm
Duntley 2005 ⁵⁶	One-night study
Duong 2005 ⁵⁷	One-night study
Engleman 1993 ⁵⁸	Non randomised study of objective compliance measure of CPAP use
Engleman 1994 ⁵⁹	Non-randomised study of CPAP compliance
Epstein 2000 ⁶⁰	Educational/psychosocial intervention
Feenstra 2005 ⁶¹	Assessment of nose drops on CPAP machine usage
Ficker 1997 ⁶⁴	Laboratory-based study
Ficker 1998 ⁶⁵	Laboratory-based study
Ficker 2000 ⁶³	Laboratory-based study

Study	Exclusion reason
Fletcher 1991 ⁶⁷	Educational/psychosocial intervention
Fleury 1996 ⁶⁸	Non-randomised study of CPAP compliance
Gagnadoux 1999 ⁶⁹	Non-randomised study on effectiveness of Autoset to determine treatment pressure
Galetke 2006 ⁷²	Manual versus auto-titrating study
Galetke 2008a ⁷³	Comparison of CPAP with standard heated humidification versus CPAP with humidification via a heated breathing tube - no fixed CPAP arm
Galetke 2016 ⁷¹	Control group received humidification in addition to fixed pressure CPAP.
Gfüellner 2007 ⁷⁵	Inappropriate intervention -CPAP with expiratory pressure relief
Goncalves 2006 ⁷⁶	Inadequate duration
Greenfield 2003 ⁷⁸	Placebo control
Grote 2000 ⁷⁹	Non-randomised study on CPAP compliance
Gupta 2011 ⁸²	Prospective, randomised, controlled trial comparing effects of standard care versus period of CPAP mask acclimatization period prior to commencing CPAP on CPAP adherence at 4 weeks - not a comparative trial of pressure modification devices in OSA
Herold 2007 ⁸⁵	Participants randomised to receive auto-CPAP as a titration strategy
Hertegonne 2003 ⁸⁷	Laboratory-based titration study
Hertegonne 2006 ⁸⁶	Split-night titration study
Horvath 2008 ⁸⁸	Different levels of Bi-PAP compared
Hosselet 1999 ⁸⁹	Review article
Hoster 1996 ⁹⁰	Laboratory-based study
Hostler 2014 ⁹¹	Comparison of effects of auto-titrating CPAP (APAP) versus auto-titrating CPAP with expiratory pressure relief (A-Flex) on compliance - no fixed CPAP arm
Hoy 1999 ⁹⁶	Educational/psychosocial intervention
Huang 2001 ⁹⁷	Non-randomised study

Study	Exclusion reason
Hui 2000 ⁹⁹	Educational/psychosocial intervention
Hui 2001 ¹⁰⁰	Non-randomised study of CPAP effectiveness
Hui 2006 ¹⁰¹	Different pressure levels of CPAP compared (therapeutic and subtherapeutic)
Hukins 2005 ¹⁰³	Different titration strategies compared
Husain 2003 ¹⁰⁴	No fixed CPAP control group
Juhász 2001 ¹⁰⁹	Two-night in laboratory titration study
Khanna 2003 ¹¹¹	Comparison outside the focus of the review: oral versus nasal interface
Khayat 2007 ¹¹²	Participants with significant cardiac comorbidity
Kotzian 2019 ¹¹⁴	Inappropriate intervention- telemonitoring
Krieger 1992 ¹¹⁵	Non-randomised study on CPAP compliance following simplified diagnostic procedure for OSA
Krieger 1999 ¹¹⁶	Review article
Kushida 2011 ¹¹⁷	Inappropriate intervention - Autoflex (multimodality)
Lai 2017 ¹¹⁸	Study assessed Long-term efficacy of an education programme in improving adherence with continuous positive airway pressure treatment for obstructive sleep apnoea. Study included in adherence review.
Lebret 2019 ¹¹⁹	Part of Pepin 2016 #980. Check pepin paper for inclusion. Emailed Emma Dennett for excluded studies list.
Leidag 2008 ¹²⁰	Inappropriate intervention -CPAP with expiratory pressure relief
Likar 1997 ¹²¹	Non-randomised study of CPAP compliance
Liu 2007 ¹²²	Inadequate duration
Loberes 2004 ¹²³	Study assessing the effects of daytime CPAP titration
Lopez-Martin 2005 ¹²⁴	Not assessment of pressure modification
Loube 2004 ¹²⁵	Inappropriate intervention -CPAP with expiratory pressure relief
Loube 2003 ^{126, 127}	Laboratory based titration study
Lugo 2019 ¹²⁸	Inappropriate comparison. hospital routine (HR) and out-of-hospital Virtual Sleep Unit (VSU).

Study	Exclusion reason
Mador 2005 ^{129, 130}	Randomisation between immediate provision of humidification and delayed provision of humidification
Marshall 2008 ¹³⁴	Inappropriate intervention -CPAP with expiratory pressure relief
Mansfield 2003 ¹³¹	Participants randomised to CPAP or inactive control
Marshall 2003 ¹³³	Not assessment of pressure modification
Masa 2004 ^{140, 144}	Different titration strategies compared
Massie 1999 ¹⁴⁶	Head to head comparison of active agents (heated versus cold humidification). No control group receiving only fixed pressure CPAP
McArdle 2010 ¹⁴⁸	Comparison of effects of manual titration versus laboratory APAP titration versus home APAP titration on CPAP compliance - patients switched to fixed CPAP after titration study
McNicholas 1997 ¹⁴⁹	Editorial
Meurice 2009 ¹⁵⁵	Inappropriate intervention - Autoflex (multimodality)
Meurice 1994 ¹⁵¹	Non-randomised study of CPAP compliance
Meurice 1998 ¹⁵⁴	Randomised comparison of 2 types of auto-CPAP
Meurice 2007a ¹⁵²	Study of educational interventions
Montserrat 2006 ¹⁵⁸	Inadequate duration
Modrak 2007 ¹⁵⁶	Inappropriate intervention -CPAP with expiratory pressure relief
Morley 2001 ¹⁵⁹	Journal correspondence
Mortimore 1998 ¹⁶⁰	Randomised trial comparing nose and face mask CPAP therapy
Mulgrew 2005 ¹⁶³	Different diagnostic strategies compared
Mulgrew 2006 ¹⁶²	Inadequate duration
Munoz 2009 ¹⁶⁴	Comparing effects of three different autoadjusting CPAP devices on respiratory events - no fixed CPAP arm

Study	Exclusion reason
Murase 2020 ¹⁶⁵	Inappropriate intervention- Telemedicine to improve adherence. Included in adherence review.
Murray 2002 ¹⁶⁹	Responder analysis
Neale 2011 ^{178, 179}	Randomised trial comparing 6 autoadaptingCPAP devices in patients previously treated with fixed CPAP - fixed CPAP arm not run concurrently with autoCPAP arms
Nilius 2019 ¹⁸⁴	Inappropriate intervention- Telemedicine to improve adherence. Included in adherence review.
Nolan 2006 ^{186, 187}	Randomisation between different auto-titrating CPAP machines; data from fixed CPAP machines captured from start of trial
Nilius 2006 ¹⁸³	Inappropriate intervention -CPAP with expiratory pressure relief
Palasiewicz 1997 ^{191, 244}	Randomised study conducted when participants were awake
Peach 2003 ¹⁹⁴	Educational/psychosocial intervention
Pépin 2009 ¹⁹⁸	Inappropriate intervention -CPAP with expiratory pressure relief
Pépin 1995 ¹⁹⁷	Non-randomised trial on side effects of nasal CPAP therapy
Pépin 1999 ¹⁹⁶	RCT assessing different ways of measuring compliance with CPAP therapy. No comparison of active interventions.
Penzel 2004 ¹⁹⁵	Laboratory-based study
Pevernagie 2004 ²⁰⁰	No fixed CPAP control
Pierce 2005 ^{201, 202}	Different APAP therapies compared
Pilz 2000 ²⁰³	Laboratory-based study
Piper 2008 ²⁰⁶	Participants recruited with obesity hypoventilation syndrome
Planès 2003 ²⁰⁷	Randomised trial comparing auto with fixed pressure CPAP. This trial was excluded as an educational intervention administered at baseline was not standardised between the two treatment groups. Titration was also performed in different settings for auto and fixed pressure CPAP.
Powell 2014 ²⁰⁸	Comparison of effects of an established auto-titrating CPAP device (REMstar Auto C-flex) with a

Study	Exclusion reason
	lightweight device (Transcend Auto) on AHI and treatment pressure - no fixed CPAP arm
Powell 2012 ²⁰⁹	Inappropriate intervention - Bi-level PAP (multimodality)
Pradeepan 2017 ²¹⁰	Study in people with positional OSA. This study population may be present with similar symptoms to OSA, but since onset is related to sleep position, pressure requirement will differ from those with non-positional OSA.
Rains 1996 ²¹³	Non-randomised study assessing educational interventions in 4 children with OSA (PsycINFO)
Randerath 1999 ²¹⁷	Randomised comparison of 2 different automatic titrating modes of pressure. Excluded as no randomised comparison made with fixed pressure CPAP was made
Randerath 1999b ²¹⁶	This study compared different media for informing patients about CPAP. This was excluded as there was no adequate control group, and the intervention was restricted to a sleep laboratory, rather than an assessment of long-term treatment on CPAP usage
Randerath 2001a ²¹⁴	Laboratory-based study
Randerath 2003 ²¹⁵	Comparison of 2 different active treatments (BiPAP versus auto-CPAP), without a randomised comparison with fixed CPAP
Richards 2007 ²²²	Study of CBT
Rosenthal 2001 ²²⁶	This study was excluded as participants were prescribed CPAP machines set at different hours of use (< 6.5 hours and > 7.5 hours)
Rosenthal 2012 ²²⁷	Comparison of effects of auto-titrating PAP (Standard AutoPAP) versus auto-titrating PAP with expiratory pressure relief (SmartFlex™) on overnight pulse oximetry and compliance - no fixed CPAP arm
Rubio 2015 ⁸³	Inadequate duration.
Salgado 2006 ^{232, 233}	Humidification added to APAP. No fixed pressure comparator.
Scharf 1996 ²³⁶	No attempt to measure compliance

Study	Exclusion reason
Sharma 1996 ²⁴¹	RCT efficacy of auto-CPAP versus constant CPAP for overnight titration study. Cross-over study - no long-term assessment of patient acceptance of treatment possible.
Signes-Costa 2005 ²⁴²	Assessment of different strategies to diagnose and manage OSA
Sin 2002 ²⁴³	Non-randomised cohort study on the effects of a complex intervention on patient compliance with CPAP therapy
Speer 2012 ²⁴⁷	Randomised trial comparing effect of heated humidification with automatically adjustable temperature versus heated humidification with constant temperature on CPAP usage in OSA patients - no fixed CPAP only arm
Stammnitz 2004 ²⁴⁸	Laboratory-based study
Suzuki 2007 ²⁵⁰	Participants randomised to auto-CPAP or no treatment as a means of titration prior to fixed pressure CPAP
Taylor 2003 ^{251, 252}	Assessment of telemedicine intervention
Torvaldsson 2003 ²⁵⁵	Inadequate duration (2 x 1 week treatment arms)
van der Aa 2003 ²⁵⁶	Different titration strategies
Walter 2003 ²⁵⁸	Randomised comparison between auto-CPAP and BiLevel PAP
Wenzel 2007 ²⁵⁹	Inappropriate intervention -CPAP with expiratory pressure relief
Wiese 2005 ²⁶²	Educational/behavioural intervention
Wiest 1999 ²⁶⁴	Head to head comparison of active agents (heated humidification and oily nose drops). No control group receiving only fixed pressure CPAP
Wiest 2002 ²⁶³	2-night titration study
Wimms 2013 ²⁶⁶	Comparison of S9 (humidification with autoadjusting CPAP) versus CPAP - not a randomised trial
Zhu 2018 ²⁶⁸	Meta-analysis- screened for relevant references

Table 29: Studies excluded from the clinical review-OHS

Study	Exclusion reason
Afshar 2020 ¹	Systematic review. Screened for relevant references.
Bakker 2011 ¹⁰	Inappropriate population. Morbidly obese OSA patients.
Borel 2010 ²⁴	Conference Abstract
Carter 2016 ³³	Not RCT
Chung 2018 ⁴⁰	Cochrane protocol
Corral 2018 ⁴⁵	No useful outcomes.
Contal 2011 ⁴⁴	Conference Abstract
Contal 2013 ⁴³	Clinical Trials citation only
Couillard 2015 ⁴⁷	Not in English
Gonzalez Moro 2005 ⁷⁷	Conference Abstract
Guan 2018 ⁸⁰	Protocol
Howard 2014 ⁹³	Conference Abstract
Howard 2015 ⁹⁴	Conference Abstract
Jimenez 2016 ¹⁰⁸	Conference Abstract
Janssens 2009 ¹⁰⁶	Not appropriate comparison. Volume targeting by bi-level positive pressure ventilation (BPPV)
Masa 2019 ¹⁴³	No protocol outcomes.
Masa 2001 ¹³⁶	Inappropriate comparison. People with OHS vs people with kyphoscoliosis
Masa 2015 ¹³⁸	Conference Abstract
Meurice 2007 ¹⁵⁰	Included in OSAHS part of the review.
Mokhlesi 2020 ¹⁵⁷	Inappropriate study design- observational study.
Murphy 2010 ¹⁶⁶	unobtainable conference abstract
Murphy 2011 ¹⁶⁷	Conference Abstract
Nicolini 2018 ¹⁸²	Literature review. Screened for relevant references.
NCT 2010 ¹⁷⁷	Clinical Trials citation only
NCT 2012 ¹⁷⁶	Clinical Trials citation only
Patout 2020 ¹⁹²	Inappropriate intervention- automated expiratory positive airway pressure versus volume targeted non-invasive ventilation.
Pinto 2017 ²⁰⁴	Conference Abstract
Piper 2006 ²⁰⁵	Conference Abstract

Study	Exclusion reason
Quiroga 2018 ²¹¹	Conference Abstract
Quiroga 2017 ²¹²	Conference Abstract
Rautela 2011 ²¹⁸	Conference Abstract
Roche 2018 ²²³	Conference Abstract
Royer 2019 ²²⁹	Systematic review. Screened for relevant references.
Sanchez Quiroga 2017 ²³⁴	Conference Abstract
Sanchez Quiroga 2018 ²³⁵	Conference Abstract
Serrano 2011 ²⁴⁰	Conference Abstract
Soghier 2019 ²⁴⁵	Systematic review. Screened for relevant references.