Search strategy

An experienced medical librarian developed and executed the search strategy, with input from the first author.

Search conducted on March 7, 2017 using the following search terms:

Polysomnography
Sleep wake syndromes
Sleep apnea syndromes
sleep disordered breathing
hypoventilation/
Hypopnea* or hypoapnei* or hypopnoea
Oxygen/bl
Desaturation*
Di/cl
Score* scoring/ahi/severity – index of severity/rules
Inter-rater variation/ observer variation
Definition* criteria
Diagnostic accuracy
Sensitivity and specificity
AUC Roc Curve
repeatab*/reproducibility of results/
quantitation/quantify

In the Ovid MEDLINE database, the term *hypopnea* was included under “sleep apnea syndromes, obstructive” and “sleep apnea syndromes, central.”

Ovid MEDLINE(R) Epub Ahead of Print, In-Process & Other Non-Indexed Citations, Ovid MEDLINE(R) Daily and Ovid MEDLINE(R) <1946 to Present>

Scopus
(TITLE-ABS-KEY ((sleep* OR polysomnogra*) AND defin* AND (hypopne* OR hypoapnoe* OR hypopn*)) AND TITLE-ABS-KEY (classif* OR score* OR scoring OR criteri* OR rule*)) AND PUBYEAR > 1998 AND (LIMIT-TO (LANGUAGE , "English")) 532

#	Searches	Results	Type
1	exp Sleep Wake Disorders/	73321	Advanced
2	exp Apnea/	35396	Advanced
3	(sleep adj2 (apnea or apnoea* or disorder*)).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	61562	Advanced
4	Polysomnography/	17162	Advanced
5	polysomnogra*.mp. or 4 or 3 or 2 or 1 [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	95394	Advanced
6	(hypopnea* or hypopnoea* or hypoapne*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	9242	Advanced
7	5 and 6	9069	Advanced
8	(classifi* or score* or scoring or criteri* or rule*1 or defin*).mp.	2537244	Advanced
9	7 and 8	3669	Advanced
10	..l/ 9 lg=en and yr=1999-2017	3139	Advanced
11	limit 10 to (clinical study or clinical trial, all or clinical trial, phase i or clinical trial, phase ii or clinical trial, phase iii or clinical trial, phase iv or clinical trial or comparative study or controlled clinical trial or evaluation studies or meta analysis or multicenter study or observational study or pragmatic clinical trial or randomized controlled trial or systematic reviews or validation studies)	1068	Advanced
12	10 and (cohort* or "cross section*" or study or studies or prospective* or retrospective*).mp. [mp=title, abstract, original title, name of substance word, subject heading word, keyword heading word, protocol supplementary concept word, rare disease supplementary concept word, unique identifier, synonyms]	2845	Advanced
13	11 or 12	2873	Advanced
14	13 and defin*.ti,ab,kw.	1096	Advanced
15	remove duplicates from 14	1064	Advanced

CENTRAL – same strategy, 131

Embase <1988 to 2017 Week 10>

#	Searches	Results	Type
1	exp Sleep Wake Disorders/	177663	Advanced
2	exp Apnea/	22817	Advanced
3	(sleep adj2 (apnea or apnoea* or disorder*)).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading]	114257	Advanced
4	Polysomnography/	30134	Advanced
5	polysomnogra*.mp. or 4 or 3 or 2 or 1 [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading]	222165	Advanced
6	(hypopnea* or hypopnoea* or hypoapne*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading]	17275	Advanced
7	5 and 6	17046	Advanced
8	(classifi* or score* or scoring or criteri* or rule*1 or defin*).mp.	3489424	Advanced
9	7 and 8	7247	Advanced
10	..l/ 9 lg=en and yr=1999-2017	6606	Advanced
11	10 and (classif* or score* or scoring or criter* or rule*1).mp. and defin*.mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading]	1071	Advanced
12	10 and defin*.mp. and (roc or auc or interrater or "inter rater" or variation* or outcome* or diagnos* or prognos*).mp. [mp=title, abstract, heading word, drug trade name, original title, device manufacturer, drug manufacturer, device trade name, keyword, floating subheading]	1510	Advanced
13	11 or 12	1870	Advanced
14	exp case control study/ or exp case study/ or exp clinical trial/ or exp "clinical trial (topic)"/ or exp intervention study/ or exp longitudinal study/ or exp major clinical study/ or exp prospective study/ or exp retrospective study/	4023617	Advanced
15	exp cohort analysis/ or exp correlational study/ or exp cross-sectional study/ or exp intermethod comparison/	763951	Advanced
16	comparative study/ or follow-up/	1799786	Advanced
17	13 and (14 or 15 or 16)	1078	Advanced
18	17 not case report/	1070	Advanced

#	Searches	Results	Type
19	18 not (letter or note or editorial).pt.	1069	Advanced
20	remove duplicates from 19	999	Advanced

Table S1. Studies Comparing 2012 and 2007 Criteria

Study	Design	No. of Subjects	Population	Hypopnea definitions; Results
Ponsaing et al[18]	Records scored simultaneously using 3 definitions	N=63 records	Subjects with acute stroke or TIA undergoing PSG	4%OD and 2007 IB, 3%ODA No difference between 20007 IB and 3%ODA. A total of 75% were diagnosed with SDB using 4%OD, 90% using 2007 IB (*P*<.05); 30 subjects changed diagnosis, 10 from no SDB to SDB (2 of these to moderate SDB), 16 from mild to moderate SDB
Duce et al[19]	Records scored using 2 definitions; retrospective	N=303	Subjects with suspected OSA undergoing PSG	4%OD and 3%ODA 49% diagnosed with OSA using 4%OD vs 84% with 3%ODA and higher proportion of female patients with positional OSA using 3%ODA No difference in other outcomes (ESS, FOSQ, SF36, PVT, DASS scores, all *P*>.05)
Campos-Rodriguez et al[20]	AHI calculated using 3 definitions, retrospective	Two Spanish cohorts, n=1,116 women, n=939 elderly individuals	Subjects with suspected OSA undergoing PSG (1998-2007)	4%OD, 30%AHI3%, and 3%ODA Prevalence of severe OSA increased by 14% with 3%ODA vs 4%OD and % of women with no SDB decreased by 13% AHI ≥30 per h was independently associated with increased CV mortality risk in women, irrespective of definition used (4%OD: OR 5.19, 95% CI: 1.82-14.7, *P*=.03; 30%AHI3%: OR 3.44, 95% CI: 1.24-9.53, *P*=.02; 3%ODA: OR 7.22, 95% CI: 1.65-31.4, *P*=.01), and in the elderly with 4%OD (OR 2.5, 95% CI:1.26-4.96, *P*=.01) and 30%AHI3% (OR 2.11, 95% CI: 1.02-4.38, *P*=.04) but not 3%ODA (OR 2.7, 95% CI:0.92-6.9, *P*=.06)

Ho et al[21]	Cross-sectional analysis of SHHS	N=6,441 Age ≥40 y	Community cohort; home PSG	4%OD, 30%AHI3%, 3%ODA Median AHI 5.4, 9.7, 13.4 per h respectively (*P*<.001) compared using penalized spline regression models. Divergence in AHI scores was noted at low AHI values and gradual convergence at higher levels, i.e. the relative difference between AHI values was reduced in severe disease
Heinrich et al[22]	Retrospective with single scorer	N=91 (81 male) Mean (SD) age, 73.6 (11.3) y	HF, NYHA class ≥II, LVEF ≤45% with CSR; polygraphs	4%OD, 2007 IB, 3%ODA Significantly increased AHI with 2007 IB and 3%ODA vs 4%OD by 3.5 and 4.2 per h respectively. Mean AHI 34.1 [13.5] vs 37.6 [13.2] vs 38.3 [13.2] per h respectively. Mean (SD) duration of CSR in min increased with 2007 IB vs 4%OD (182.2 [117.0] vs 170.1 [115.0], *P*<.001) and decreased with 3% ODA vs 2007 IB (166.7 [115.4] vs 182.2 [117.0], *P*<.001) vs 4%OD
Duce et al[23]	Retrospective	112 records	Suspected OSA, PSG in a tertiary setting, Australia	1999Hyp, 4%OD, 2007 IB, 3%ODA Median AHI using 3%ODA was 90% greater than 4%OD, 25% greater than 2007 IB and 15% lower than 1999Hyp. Applying 3%ODA criteria increased OSA diagnoses by 20% and 5% versus 4%OD and 2007 IB respectively. To achieve 3%ODA criteria OSA prevalence, the AHI threshold would need to shift to 2.6, 3.6, and 7.3 per h with 4%OD, 2007 IB and 1999Hyp criteria respectively
Dean et al[45]	Cross-sectional, , assessing association of PSG indices with BP	N=2040 Mean age 68 y, 54% female	Multiple site,, multi-ethnic study of atherosclerosis	Multiple, including 4%OD, 30%AHI3%, and 3%ODA AHI derived using 4%OD was most consistently associated with SBP and DBP (*P*=.005 and .004 respectively)

Leow et al[24]	Records scored with 4%OD, then rescored (blinded) with 3%ODA criteria	N=81 Median age, 50 y	Prospective cohort study of OSA patients without known CV disease	4%OD, 3%ODA Median AHI 27.8 vs 36.9 per h with 4% respectively. CAC scores were less than 11, 11-400 and >400 in 62%, 33% and 5% of the cohort respectively. AHI from 3%ODA (rho 0.24, *P*=.03) correlated better with CAC scores than 4%OD (rho 0.20, *P*=.07); ROC curve analysis showed no differences in predictive accuracy of 4%OD vs 3%ODA-derived AHI for CAC >400 (c statistic 0.77 vs 0.82, *P*=.24)
BaHammam et al[13]	Prospective; scored 3 times by 2 technologists	100 records Mean (SD) age, 45.5 (2.6) y	Patients with suspected OSA undergoing PSG	4%OD, 2007 IB, 3%ODA Mean (SD) AHI 37.9 (7.6) 14.8 (22.4) and 29.6 (27.0) per h respectively. More events nearly always detected with 3%ODA on Bland-Altmann analysis of AHI data
Heinzer et al[25]	Retrospective	N=2,114 Mean (SD) age, 58.5 (11) y, 49.6% female	Swiss population–based cohort; home PSG	1999Hyp, 4%OD, 3%ODA Mean AHI 10.9, 4.3 and 9.9 per h, respectively. Prevalence of moderate OSA: 47, 19, and 7% and severe OSA: 72, 35, and 15% respectively. Correlation coefficients for SBP, DBP and blood glucose were higher with 3%ODA vs other criteria; in ROC curve comparisons 3%ODA was a better predictor for the presence of high BP, diabetes and metabolic syndrome

Punjabi et al[26]	Community patients undergoing PSG	N=6,106 patients from the SHHS	SHHS, community cohort of middle-aged and older adults; home PSG	4%OD vs lesser desaturation thresholds or arousal, i.e., 4%OD vs 3%ODA, 2012 B and 2007 IB, and other comparisons Adjusted OR for quartiles of the hypopnea index using 4%OD looking at association with prevalent CV disease: 1.00 (<1.10 events per h), 1.10 (1.01–3.20 events per h), 1.33 (3.21–7.69 events per h), and 1.41 (>7.69 events per h). Adjusted OR for quartiles of the hypopnea index using 4%OD looking at association with prevalent CV disease: 1.00 (<1.10 events per h), 1.10 (1.01–3.20 events per h), 1.33 (3.21–7.69 events per h), and 1.41 (>7.69 events per h). Further analyses accounting for more severe desaturation above the cut point being assessed showed that only 4%OD (and not lesser thresholds or those with arousal) were associated with prevalent CV disease

Abbreviations: 30%AHI3%, ≥30% reduction in airflow associated with ≥3% desaturation; AHI, apnea-hypopnea index; CAC, coronary artery calcification; CSR, Cheyne-Stokes respiration; CV, cardiovascular; BP, blood pressure; DBP, diastolic blood pressure; ESS, Epworth sleepiness scale; DASS, depression anxiety stress scale; FOSQ, functional outcomes of sleep questionnaire; HF, heart failure; NYHA, New York Heart Association; LVEF, left ventricular ejection fraction; OR, odds ratio; OSA, obstructive sleep apnea; PSG, polysomnogram; PVT, psychomotor vigilance testing; ROC, receiver operating characteristic; SBP, systolic blood pressure; SD, standard deviation; SDB, sleep-disordered breathing; SF36, Short Form Health survey−36 items; SHHS, Sleep Heart Health Study; TIA, transient ischemic attack.

Table S2. Studies Comparing 4%OD and 2007 IB Criteria

Study	Design	No. of Subjects	Population	Hypopnea definitions; Results
Nerfeldt et al[16]	HSAT using 4%OD, PSG scored using 2007 IB	N=187 Patients snored and had daytime symptoms	Negative HSAT followed by PSG 7 months later	4%OD, 2007 IB Median (range) RDI on PSG was 11 (0-89) per h; 90% with at least mild OSA; 64% with moderate-severe OSA. About 50% reported low general health or psychiatric issues
Ward et al[27]	Cross-sectional observational study	N=181 Median age, 69.6 y 86% male	Stable HF, cardiology clinics at 2 London hospitals	4%OD, 2007 IB Median AHI increased from 9.3 to 13.8 per h with 2007 IB. Moderate SDB prevalence increased from 29% to 46% with 2007 IB, classification as CSA or OSA was unchanged, proportion of obstructive and central-appearing events were 86 vs 85%, *P*=.60 and 12 vs 14%, *P*=.77 respectively
Thornton et al[17]	Retrospective comparing thermistor to nasal pressure transducer	N=164	Suspected OSA, 3-month period, tertiary clinic	4%OD, 2007 IB Transducer resulted in 15% higher AHI than thermistor with 4%OD, 3% higher with 2007 IB. AHI from transducer alone also differed more from conventional AHI with 4%OD vs 2007 IB
Kuna et al[28]	Records scored by 2 sleep technologists	70 records	Middle-aged women, PSG, 5 academic centers	1999Hyp, 4%OD, 2007 IB Mean (SD) AHI was 15.1 (13.9), 7.4 (12.3) and 12.1 (13.3) per h, respectively. Good inter-scorer agreement for AHI with 4%OD only (ICC 0.843; 95% CI: 0.820-0.870), decreased with 2007 IB (ICC 0.728; 95% CI: 0.689-0.763) and 1999Hyp criteria (ICC 0.535; 95% CI 0.485-0.5830

Guilleminau-lt et al[29]	Retrospective, (1999Hyp), responding to treatment, rescored using 2007 criteria	N=35 20 female (5 post-menopausal), mean BMI, 24 kg/m^2	In-laboratory PSG, patients with OSA	1999Hyp, 4%OD, 2007 IB Baseline AHI was 26.9, 6.4, and 20.6 per h, respectively (*P*<.001). Posttreatment AHI was 2.3, 0.8, and 1.8 per h, respectively. Change in subjective sleepiness more strongly correlated with 1999Hyp and 2007 IB (*r*=0.6) than 4%OD (*r*=0.4)

Abbreviations: AHI, apnea-hypopnea index; BMI, body mass index; CSA, central sleep apnea; HF, heart failure; HSAT, home sleep apnea test; ICC, intra-class coefficient; OSA, obstructive sleep apnea; PSG, polysomnogram; RDI, respiratory disturbance index; SDB, sleep-disordered breathing.

Table S3. Studies Comparing 1999Hyp Criteria to 2012 or 2007 Criteria, not Listed Previously

Study	Design	No. of Subjects	Population	Hypopnea definitions; Results
Hobson et al[30]	Retrospective	N=30 with pre-and post-operative PSG	Moderate-severe OSA, undergoing pharyngeal surgery	1999Hyp, 4%OD, 2007 IB Rate of success (AHI <20 per h and reduced by 50% from baseline) was 72% with 4%OD and 39% with 1999Hyp
Haba-Rubio et al[31]	Study determining prevalence of SDB	N=505 47.1% women Mean (SD) age, 50.3 (5.6) y Mean (SD) BMI, 25.7 (4.4) kg/m^2	Swiss population-based cohort; home PSG	1999Hyp, 4%OD Prevalence of mild, moderate, and severe OSA with 1999Hyp was 77.2%, 37.5%, and 14.6% in men; 51.3%, 15.1%, and 4.6% in women; and with 4%OD was 45.7%, 15.7%, and 6.3% in men; 19.3%, 4.2%, and 0.8% in women respectively. With ESS >10 and 1999Hyp, prevalence of mild, moderate, and severe OSA was 12.0%, 6.7%, and 2.6% in men; 5.5%, 2.1%, and 0.4% in women. With ESS >10 and 4%OD, the rates were 6.3%, 3.4%, and 0.4% in men; 2.1%, 1.3%, and 0% in women respectively. Note: this was an early cohort of the population-based study by Heinzer et al described earlier, showing prevalence results by ESS[24]
Ruehland et al[32]	Retrospective review	N=328 (consecutive patients)	PSG for OSA at 2 tertiary clinical sleep laboratories, 3-month period	1999Hyp, 4%OD, 2007 IB Median AHI by 4%OD was 30% of that by 1999Hyp; median AHI by 2007 IB was 60% of that by 1999Hyp. Large, AHI-dependent, patient-specific differences noted. Mild, moderate and severe OSA cut-offs were established with ROC curves: Failure to adjust cut-points from 1999Hyp resulted in 40% being classified as negative with 4%OD and 25% with 2007 IB

Abbreviations: AHI, apnea-hypopnea index; BMI, body mass index; ESS, Epworth Sleepiness Scale score; OSA, obstructive sleep apnea; PSG, polysomnogram; ROC, receiver operating characteristic; SDB, sleep-disordered breathing.

Table S4. Studies Examining Other Hypopnea Criteria, not Listed Previously

Study	Design	No. of Subjects	Population	Hypopnea definitions; Results
Myllymaa et al[33]	Retrospective	N=68, 49 male Median age, 53.2 y	Ambulatory polygraphy, AHI ≥5/h	30%AHI2-8% desaturation 3% desaturation criteria had 5.6 per h higher median AHI vs 4% desaturation; 3% desaturation criterion resulted in 1.5 per h higher median adjusted AHI (accounting for severity of breathing episodes) vs 4% desaturation. Proportion of moderate-severe OSA increased from 29.4% to 73.5% using conventional AHI and from 73.5% to 77.9% using adjusted AHI, with 3% vs 4% desaturation criteria
Aurora et al[34]	Records automatically and manually scored	200 tests	HSAT	3% and 4% desaturation thresholds Automatic scoring underestimated AHI compared with manual scoring, by 6.1 per h for 3% desaturation and 4.6 per h for 4% desaturation with Apnealink software and by 5.3 per h and 8.4 per h with Embletta software
Otero et al[35]	Retrospective, records scored using 2 criteria	40 in-laboratory PSG records	Full PSG, hospital sleep laboratory	Event duration 5-10 seconds, 2007 IB AHI higher by 3.4 per h with duration criterion; 2 patients showed marked variation in AHI (27.3 per h and 44.3 per h)
Ruiz-Lopez et al[36]	Records scored by 2 physicians vs automated	189 records	HSAT	30%AHI3%, 4%OD Acceptable level of agreement between visual RDI and both definitions (P<.001; r^2 was 96.2% and 97.0%, respectively). Level of agreement between visual RDI and both definitions, r^2 was 96.2% and 97.0% respectively, P<.001

Masa et al[14]	Prospective study of patients with RDI <10/h Second PSG with Pes	N=90	In-laboratory PSG	Decrease in thoraco-abdominal motion on inductance plethysmography with ≥3% desaturation and/or arousal, Pes amplitude reduction and ≥3% desaturation and/or arousal Noninvasive method with desaturation and/or arousal detected 91% of hypopneas determined by Pes. Addition of arousal-based criteria to desaturation-only criteria resulted in an increase in events by 329% (noninvasive) and 362% (Pes) and a significant dose-response relationship between RDI and ESS tertiles (*P*<.001)
Ciftci et al[37]	Retrospective Scored with 1999Hyp, then rescored	N=90	PSG, AHI ≥5/h	1999Hyp, 50-70% AHIarousal, 50-70% AHI3% , 50%effort AHI ≥5 per h with 1999Hyp had highest sensitivity (100%) and specificity (94%) for sleepiness and "clinical OSA with sleepiness". ESS correlated with all criteria (all *r*≥.53, *P*<.01)
Nigro and Rhodius[38]	Records scored using 4 hypopnea definitions	N=20	In-laboratory PSG	30% reduction in airflow or 50% in thoraco-abdominal movement with type 1=3% desaturation, type 2=3% desaturation or arousal, type 3=4% desaturation, type 4=4% desaturation or arousal Mean (SD) AHI: type 2, 23.3 (11.6) per h; type 4, 21.4 (11.2) per h; type 3, 14.7 (11.6) per h; *P*<.001. Prevalence of OSA (AHI ≥10 and AHI ≥15 per h); type 3, 30%-55%; type 4, 70%-85%; type 1 and 2, 70%-85% (all *P*<.05)
Quan et al[39]	Study determining variability of RDI scored using 30%AHI3%, re-scored using 4%OD	N=91 with acceptable repeat study in 4 months	SHHS community cohort, home PSG	30%AHI3%, 4%OD No bias in RDI between the initial and repeat study with either criteria (ICC 0.77-0.81). In those with initial RDI<15 per h, variability increased as a function of increasing RDI but was constant in those with RDI ≥15 per h; significant inter-individual variability was noted but age, BMI and gender were not predictors of RDI variability; 79.1%, 85.7 and 87.9% of those with mild, moderate and severe SDB respectively did not change severity classification

Rochford et al[40]	Retrospective, records scored by 1 person; 3 definitions used in random order	48 random records	In-laboratory PSG, tertiary hospital sleep clinic, Australia	>10 second plus 50% decrease in ≥1 of 3 (nasal transducer, oral thermistor, thoraco-abdominal plethysmography), 1999Hyp, any reduction in airflow ≥10 seconds plus 3% desaturation Mean (SD) AHI was 36.6 (22.8), 41.7 (21.2), and 30.4 (22.5) per h (*P*<.05). Prevalence of AHI ≥20/h was 69%, 83%, and 60% respectively
Manser et al[41]	Same population as Rochford et al49	N=48	Same methods[40]	Same definitions as Rochford et al[40] Level of agreement good (ICC 0.89). Point prevalence of disease by different cutoffs (AHI >5, >15, >20 per h) varied (κ, 0.30-0.95)
Cracowski et al[15]	Prospective study	N=15;charact eri-zation of 1,061 obstructive non-apneic events	In-laboratory PSG (1999Hyp), sleepy patients with suspected SDB	Hypopneas classified based on 1) cortical arousal and 2) autonomic arousal N=11 patients had pulse transit time measurements; autonomic arousal was as accurate as cortical arousal in classifying events as hypopneas. Classification of obstructive non-apneic events: hypopneas, 62.8%; RERAs, 5.3%; indeterminate, 14.8%; similar change in Pes at the end of hypopneas and RERAs, but reduction in flow was greater with hypopnea
Redline et al[42]	Community cohort study	N=5,046 patients in SHHS	12-channel PSG	Relationships among 10 RDI definitions Median RDI varied by 10-fold; 29.3 per h with flow and volume amplitude criteria alone to 2 per h with associated 5% desaturation; correlation coefficient ranged from 0.99-0.68, with highest correlations between definitions requiring desaturation vs based on amplitude or associated arousal
Hibbert et al[43]	Retrospective study, rescored using 1999Hyp	48 random records	16-channel PSG	Apnea or hypopnea with 4% desaturation, 1999Hyp In mild disease, mean (SD) RDI was 9.9 (0.9) per h with older criteria and 29.2 (3.0) per h when rescored with 1999Hyp. Similar results observed for moderate and severe SDB. For moderate SDB mean (SD) RDI was 19.5 (1.0) vs 36.9 91.60 per h, severe SDB 56.7 (5.8) vs 67.5 (5.1) per h, and for the full cohort 28.7 (4.2) vs 44.5 (3.7) per h,

				all *P*<0.01. Impact of rescoring with the 1999Hyp was most marked in mild disease; combined previously classified mild and moderate disease together
Tsai et al[44]	Studies scored using 3 criteria	N=94 (randomly selected)	Suspected OSA undergoing PSG	4%OD, 4% desaturation or arousal, arousal only Mean (SD) AHI by the 2 criteria differed by 2.04 (1.72) per h (2 SD). Mean (SD) AHI by 4%OD vs the 4% desaturation or arousal criterion differed by 2.04 (1.72) per h (2 SD). With the 4% desaturation or arousal criterion vs 4%OD, 1 extra case of OSA was diagnosed for every 14-31 patients tested, depending on the severity cutoff. Arousal-only criteria caused small changes in AHI but increased prevalence of OSA

Abbreviations: 30%AHI2-8%, ≥30% reduction in airflow associated with 2-8% desaturation; 30%AHI3%, ≥30% reduction in airflow associated with ≥3% desaturation; 50-70% AHIarousal, 50-70% reduction in airflow associated with arousal; 50-70% AHI3% , 50-70% reduction in airflow associated with ≥3% desaturation; 50%effort, ≥50% decrease in thoraco-abdominal signal amplitude; AHI, apnea-hypopnea index; ESS, Epworth Sleepiness Scale score; HSAT, home sleep apnea test; ICC, intra-class coefficient; OSA, obstructive sleep apnea; Pes, esophageal pressure; PSG, polysomnogram; RDI, respiratory disturbance index; RERA, respiratory effort−related arousal; SD, standard deviation; SDB, sleep disordered breathing; SHHS, Sleep Heart Health Study.