Θα πρέπει να είναι ο ΑΗΙ το πρωτεύον κριτήριο στην εκτίμηση και θεραπεία του ΣΑΥ? ΥΠΕΡ

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Επίκουρη Καθηγήτρια Πνευμονολογίας
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Πανεπιστημίου Κρήτης

Στόχοι

- Ο ΑΗΙ είναι ιστορικά και πρακτικά ο ακρογωνιαίος λίθος στην εκτίμηση και θεραπεία του ΣΑΥΥ
- Ο ΑΗΙ σχετίζεται με την κλινική συμπτωματολογία του ΣΑΥΥ
- Ο ΑΗΙ σχετίζεται με καρδιαγγειακές επιπλοκές
- Ο ΑΗΙ σχετίζεται με την αποδοχή, συμμόρφωση και αποτελεσματικότητα της θεραπείας με CPAP
- Περιορισμοί……

Η αρχή...

- 1837 Dickens C (*Posthumous Papers of the Pickwick Club. Chapman & Hall,London*)
- 1889 Hill W. On some cases of **backwardness and stupidity in children** (*Br Med J Clin Res Ed 1889;2:711-712*)
- **1976** Guilleminault C. **Πρώτη** περιγραφή συνδρόμου υπνικής άπνοιας σε παιδιά (*Sleep apnea in eight children. Pediatrics 1976;58:23-30*)

"...and on the box sat a fat and red-faced boy, in the state of somnolency."

Charles Dickens introduces us to Joe (in the upper right of the drawing). Dickens described many of the features of sleep apnea 120 years before this syndrome was identified by medical science.

Dickens, C.: The Posthumous Papers of the Pickwick Club, London, Chapman & Hall, Published in Serial Form 1836–1837.

Ιστορική αναδρομή

TABLE 1. MILESTONES IN DEVELOPMENT OF KNOWLEDGE ABOUT OBSTRUCTIVE SLEEP APNEA

1818, 1854	Description by Cheyne (1818) (8) and Stokes (1854) (9) of Cheyne-Stokes' respiration
1956	Description of alveolar hypoventilation in obesity (Pickwickian syndrome) (11)
1960, 1962	Periodic cessation of respiration recognized in patients with Pickwickian features (12, 13)
1965	Recognition that cessation of respiration during sleep was due to airway obstruction (i.e., OSA) (1)
1971, 1974	Case reports describing effectiveness of tracheostomy in patients with OSA (14, 15)
1976	Case series of pediatric sleep apnea (94)
1978	Description of unifying concept re pathogenesis of OSA (40)
1981	Description of nasal CPAP (4); description of specific surgery for OSA (90)
1983	Identification of CO_2-dependent apnea threshold during sleep (102)
1988	Hypopneas have same consequences as apneas (17)
1992	Identification of neuromuscular compensation (39); intermittent cylic hypoxia leads to hypertension (47)
1993	Study with robust epidemiologic methods reveals high prevalence of OSA (6)
1995	Family aggregation shown: Cleveland Family Study (30), in Israel (32), and in relatively nonobese Scots (31)
1997	Induced obstructive apneas in dogs leads to hypertension (71)
1998	Schoolchildren with poor academic performance have high prevalence of OSA. School performance improves after surgical treatment of OSA (97)
1999	Introduction of sham CPAP in clinical trials. Efficacy in severe sleep apnea syndrome identified (107)
2002	Improvement with nasal CPAP in blood pressure demonstrated in randomized, placebo-controlled trial (67)

Definition of abbreviations: CPAP = continuous positive airway pressure; OSA = obstructive sleep apnea.

A. Pack. Am J Respir Crit Care Med , 2006

Βαρύτητα ΣΑΑΥ

Δείκτης απνοιών - υποπνοιών (apnea-hypopnea index, AHI)
ή respiratory disturbance index, RDI:
συμβάματα (άπνοιες - υπόπνοιες) ανά ώρα ύπνου

AHI <5:	φυσιολογικός δείκτης
AHI 5-14:	ήπιο σύνδρομο
AHI 15-29:	μέτριο σύνδρομο
AHI ≥30:	σοβαρό σύνδρομο

Strollo PJ, N Engl J Med 1996; SIGN Guidelines 2003

Οδηγίες CMS (Centers for Medicare and Medicaid Services) την χορήγηση CPAP

- Η διάγνωση του ΣΑΥ πρέπει να έχει γίνει με πολυυπνογραφία σε εργαστήριο ύπνου
- Ο καθορισμός του AHI θα βασίζεται σε ≥ 2 ώρες πολυυπνογραφίας
- Μέτριο ή σοβαρό ΣΑΥ (AHI ≥ 15)
- Ήπιο ΣΑΥ(15 >AHI ≥ 5) και συμπτώματα
  - Ημερήσια υπνηλία
  - Γνωσιολογικές διαταραχές
  - Διαταραχές συναισθήματος ή αϋπνία
  - Υπέρταση, ισχαιμική καρδιοπάθεια,ιστορικό εγκεφαλικού επεισοδίου

Ο ΑΗΙ σχετίζεται με την κλινική συμπτωματολογία του ΣΑΥΥ

Relation of Sleepiness to Respiratory Disturbance Index

The Sleep Heart Health Study

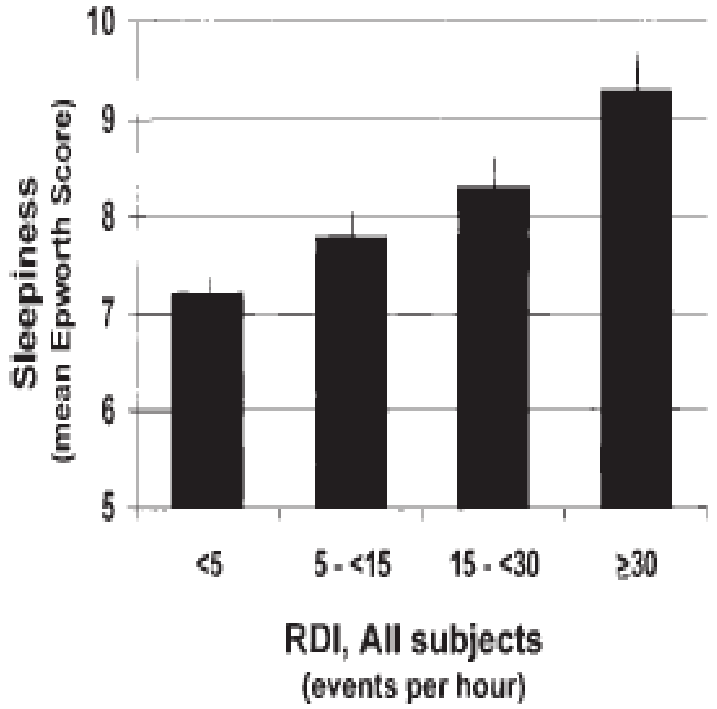
DANIEL J. GOTTLIEB, CORALYN W. WHITNEY, WILLIAM H. BONEKAT, CONRAD IBER, GARY D. JAMES, MICHAEL LEBOWITZ, F. JAVIER NIETO, and CARL E. ROSENBERG, for the Sleep Heart Health Study Research G
AM J RESPIR CRIT CARE MED 1999;159:502-507.

TABLE 1

SUBJECT CHARACTERISTICS

Subjects, n	1,824
Age, yr*	65 (11)
Sex, female, %	51
Race/ethnicity	
White, non-Hispanic, %	72
Black, non-Hispanic, %	8
Hispanic, %	3
Native American, %	16
Asian/Pacific Islander, %	1
BMI, kg/m^2*	28.8 (5.4)
Usual sleep period, h*	7.4 (1.3)
RDI, events/h*	10.9 (15.0)
Epworth score*	7.7 (4.5)

* Values are mean with SD shown in parentheses.



THE OCCURRENCE OF SLEEP-DISORDERED BREATHING AMONG MIDDLE-AGED ADULTS

TERRY YOUNG, PH.D., MARI PALTA, PH.D., JEROME DEMPSEY, PH.D., JAMES SKATRUD, M.D., STEVEN WEBER, PH.D., AND SAFWAN BADR, M.D.

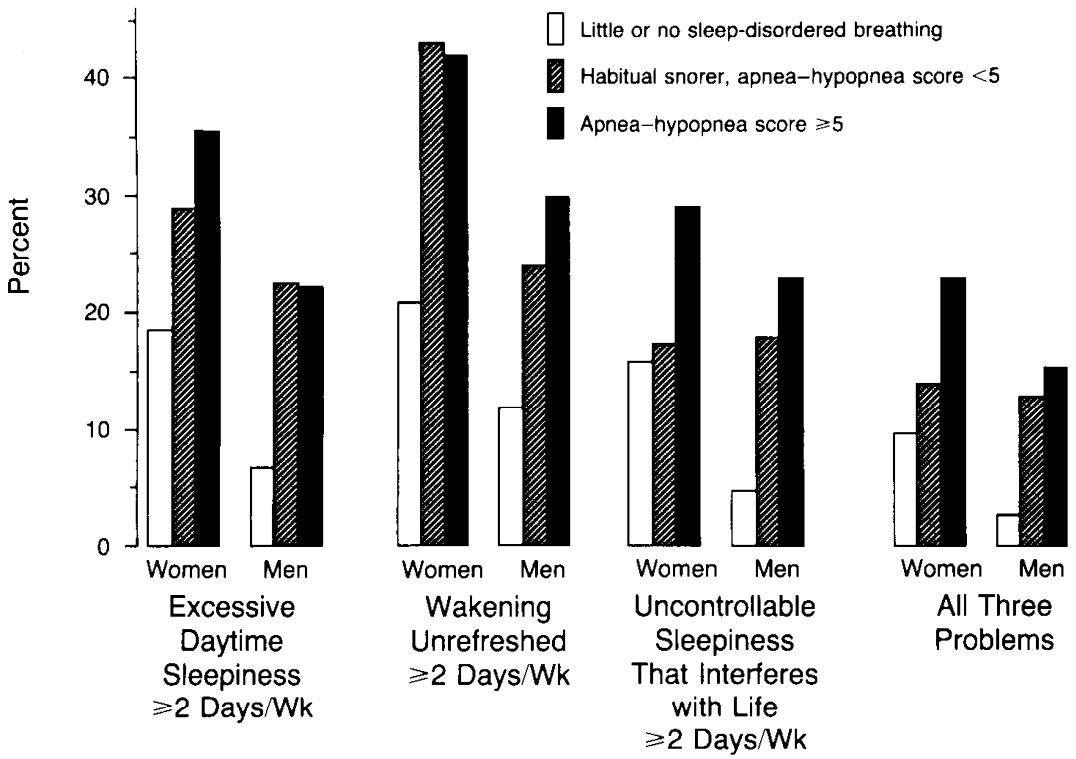


Figure 2. Proportion of Men and Women Who Reported Hypersomnolence, According to Category of Sleep-Disordered Breathing.

Modeling Hypersomnolence in Sleep-disordered Breathing

A Novel Approach Using Survival Analysis

NARESH M. PUNJABI, DANIEL J. O'HEARN, DAVID N. NEUBAUER, F. JAVIER NIETO, ALAN R. SCHWARTZ, PHILIP L. SMITH, and KAREN BANDEEN-ROCHE

AM J RESPIR CRIT CARE MED 1999;159:1703–1709.

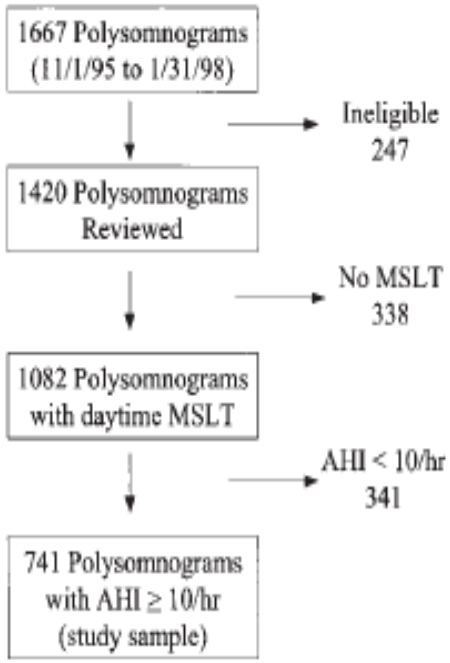


Figure 1. Flowchart showing the selection process for the study sample.

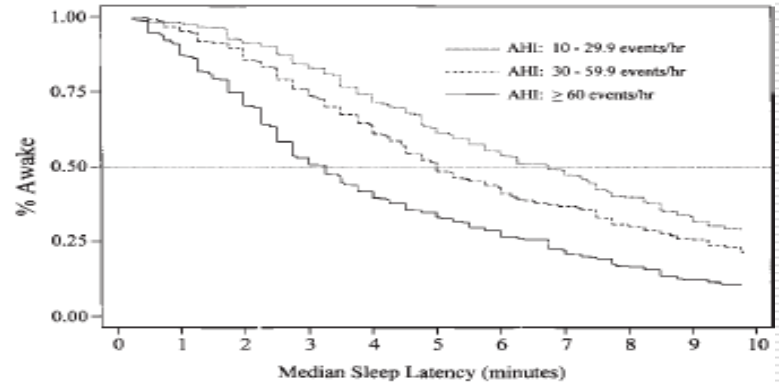


Figure 2. Kaplan-Meier survival curves by AHI category.

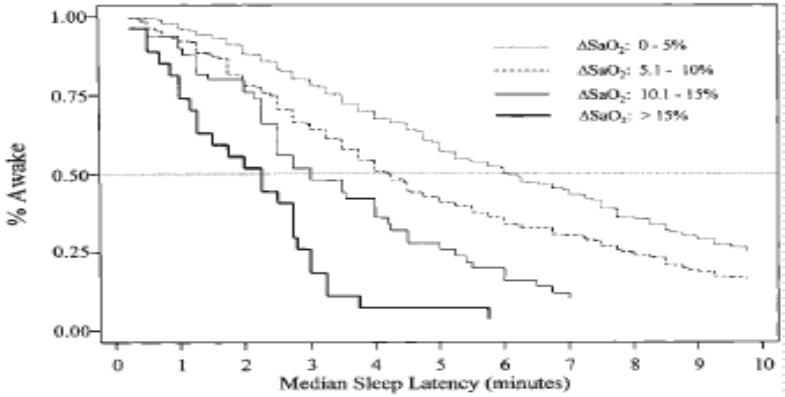


Figure 3. Kaplan-Meier survival curves by ΔSa_{O_2} category.

The Association of Sleep-Disordered Breathing and Sleep Symptoms with Quality of Life in the Sleep Heart Health Study

Carol M. Baldwin RN, PhD,[1] Kent A. Griffith MPH,[2] F. Javier Nieto MD, PhD,[3] George T. O'Connor MD, MS,[4] Joyce A. Walsleben PhD,[5] and Susan Redline MD, MPH[6]

Sleep 2001;24:96-105

Table 2—Relationship of the clinical categories of RDI at 4% to SF-36 vitality scale, odds ratios with 95% confidence intervals (CI)

Clinical Categories of RDI 4%	OR	CI
<5 (Referent)		
5 - <15	1.20	1.02 - 1.43
15 - <30	1.41	1.12 - 1.78
30+	1.77	1.31 - 2.38

Eur Respir J 1998; 12: 1264–1270
DOI: 10.1183/09031936.98.12061264
Printed in UK - all rights reserved

European Respiratory Journal
ISSN 0903 - 1936

Does arousal frequency predict daytime function?

R.N. Kingshott*, H.M. Engleman*, I.J. Deary#, N.J. Douglas*

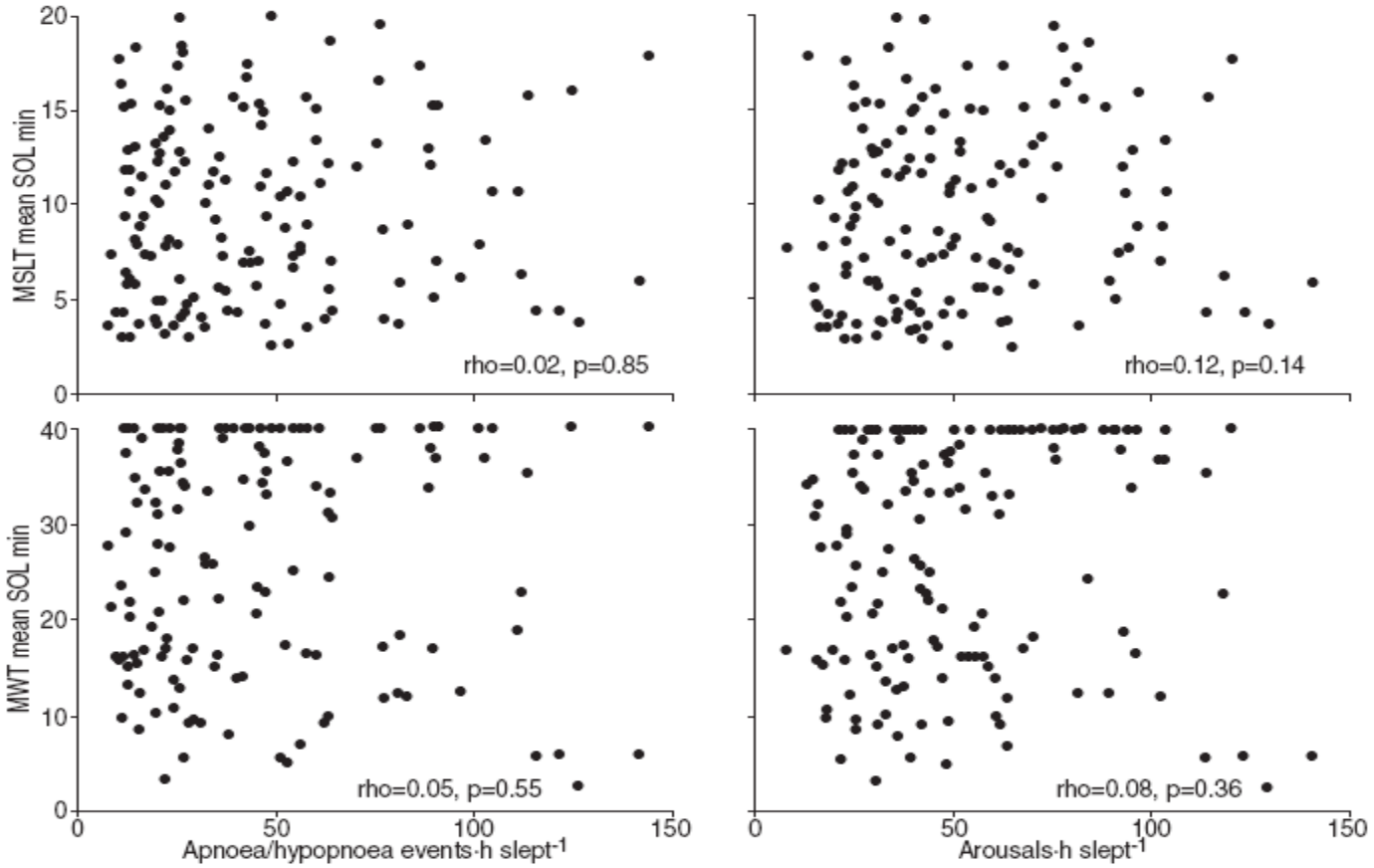


Fig. 1. – Nonsignificant relationships between sleep variables and daytime sleepiness. MSLT: multiple sleep latency test; SOL: sleep onset latency; MWT: maintenance of wakefulness test.

The relationship between pulmonary function and dyspnea in obstructive lung disease.

N Wolkove, E Dajczman, A Colacone and H Kreisman

Chest 1989;96;1247-1251
DOI 10.1378/chest.96.6.1247

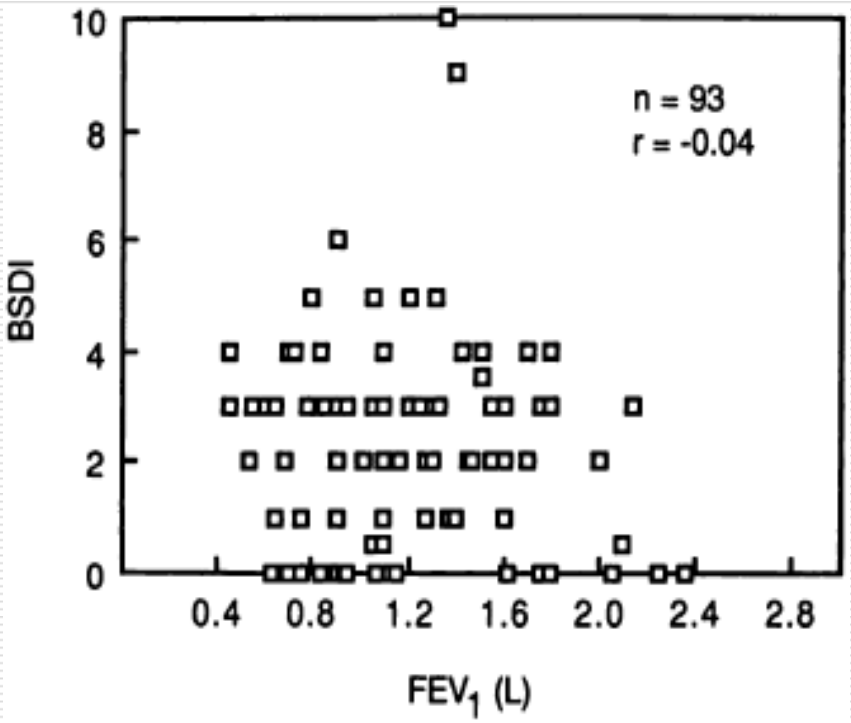


FIGURE 2. Borg Scale Dyspnea Index (BSDI) plotted against prebronchodilator FEV_1. A wide scatter of results is noted and there is no correlation between these parameters ($r = -0.04$).

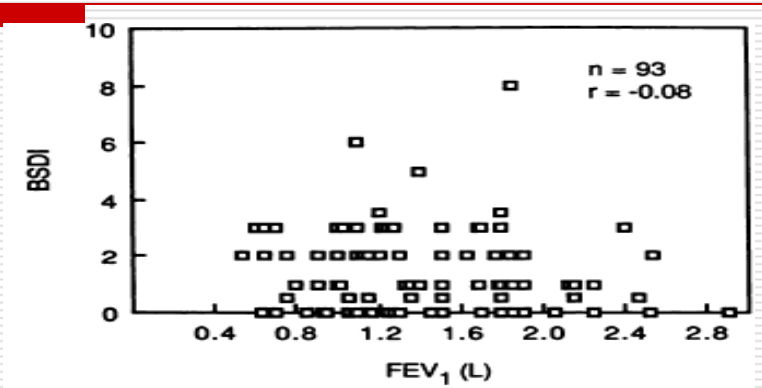


FIGURE 3. Borg Scale Dyspnea Index (BSDI) plotted against postbronchodilator FEV_1. Values for dyspnea are generally lower after bronchodilator, but there is still no correlation between BSDI and FEV_1 ($r = -0.08$).

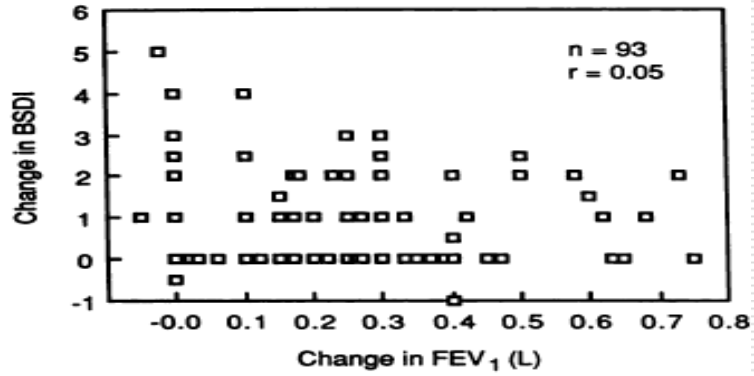


FIGURE 4. Change (pre-minus postbronchodilator) in Borg scale dyspnea index (BSDI) plotted against change in FEV_1 after bronchodilator. No correlation was seen between these parameters ($r = 0.05$).

Ο ΑΗΙ σχετίζεται με καρδιαγγειακές επιπλοκές

Sleep Apnea & Hypertension

Wisconsin Sleep Cohort Study

N = 893 subjects followed 4-8 years to assess the presence of hypertension in relationship to initial severity of OSA

N = 709 4 year follow up

N = 184 8 year follow up

Peppard et al, NEJM, 2000.

TABLE 3. ADJUSTED ODDS RATIOS FOR HYPERTENSION AT A FOLLOW-UP SLEEP STUDY, ACCORDING TO THE APNEA–HYPOPNEA INDEX AT BASE LINE.*

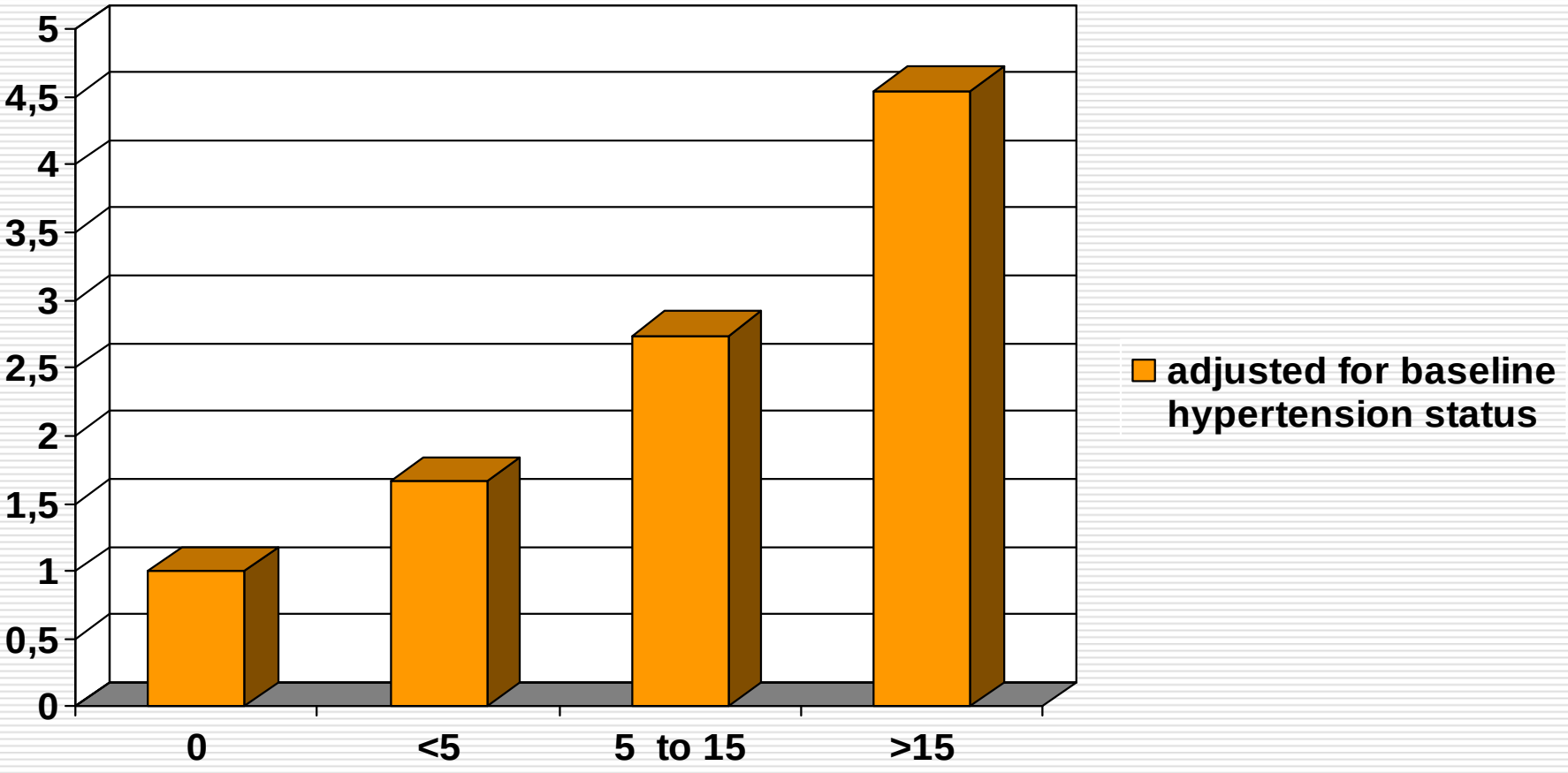
BASE-LINE APNEA–HYPOPNEA INDEX	ODDS RATIO, ADJUSTED FOR BASE-LINE HYPERTENSION STATUS	ODDS RATIO, ADJUSTED FOR BASE-LINE HYPERTENSION STATUS AND NONMODIFIABLE RISK FACTORS (AGE AND SEX)	ODDS RATIO, ADJUSTED FOR BASE-LINE HYPERTENSION STATUS, NONMODIFIABLE RISK FACTORS, AND HABITUS (BMI AND WAIST AND NECK CIRCUMFERENCE)	ODDS RATIO, ADJUSTED FOR BASE-LINE HYPERTENSION STATUS, NONMODIFIABLE RISK FACTORS, HABITUS, AND WEEKLY ALCOHOL AND CIGARETTE USE
	odds ratio (95% confidence interval)			
0 events/hr†	1.0	1.0	1.0	1.0
0.1–4.9 events/hr	1.66 (1.35–2.03)	1.65 (1.33–2.04)	1.42 (1.14–1.78)	1.42 (1.13–1.78)
5.0–14.9 events/hr	2.74 (1.82–4.12)	2.71 (1.78–4.14)	2.03 (1.29–3.19)	2.03 (1.29–3.17)
≥15.0 events/hr	4.54 (2.46–8.36)	4.47 (2.37–8.43)	2.89 (1.47–5.69)	2.89 (1.46–5.64)
P for trend‡	<0.001	<0.001	0.002	0.002

*Hypertension was defined as a blood pressure of at least 140/90 mm Hg or the use of antihypertensive medications. Data on 893 follow-up sleep studies from 709 participants were analyzed. The odds ratios and confidence intervals were adjusted for the fact that 184 participants completed two follow-up sleep studies. BMI denotes body-mass index.

†This category served as the reference group.

‡P values are for the linear trend of the logistic-regression coefficients ($\log_e$ of the odds ratios).

Correlation of Apnea-Hypopnea Index With Risk of Hypertension



Odds ratio for hypertension according to AHI

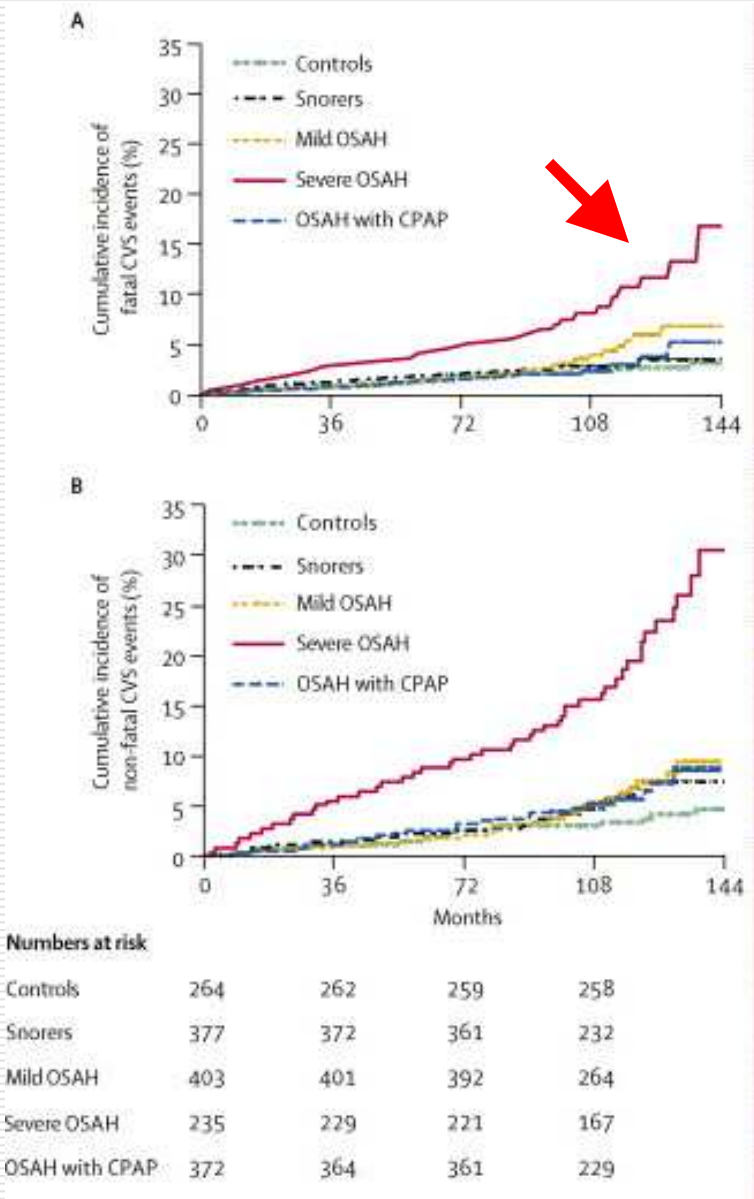
Στεφανιαία νόσος και ΣΑΥΥ

Table 1: **Prevalence of sleep apnea (AHI greater than 10) in patients with coronary artery disease**

Author	No. of subj.	Gender	AHI > 10	Controls
De Olazabal [12]	17	Male	76%	
Andreas, et al [32]	50		50%	
Mooe, et al [16]	142	Male	37%	yes
Mooe, et al [17]	102	Female	30%	yes
Koehler, et al [8]	74	Male	35%	
Peker, et al [15]	62	Male, Female	31%	yes
Moruzzi, et al [22]	22	Male, Female	9%	
Sanner, et al [23]	49	Male, Female	27%	
Mehra, et al [19]	104	Male, female	66%	
Takama and Kurabayashi [24]	65	Male, Female	45%	
Yumino, et al [18]	89	Male, Female	57%	
Total	776		42%	

Hedner J et al. Sleep Medicine Clinics 2007;559-564

ΣΑΥΥ και καρδιακά νοσήματα



Ομάδες:

- **Υγιείς μάρτυρες (264)**
- **Ρογχαλιστές (377)**
- **Μη θεραπευόμενο ήπιο-μέτριο ΣΑΥΥ (403)**
- **Μη θεραπευόμενο σοβαρό ΣΑΥΥ (235)**
- **ΣΑΥΥ υπό CPAP (372)**

- **Σε μη θεραπευόμενο σοβαρό ΣΑΥΥ υπάρχει μεγαλύτερη επίπτωση θανατηφόρων και μη καρδιολογικών επιπλοκών σε σχέση με τις υπόλοιπες ομάδες (Χ 3 κίνδυνος σε σχέση με τους μάρτυρες)**

Marin J et al. Lancet 2005;365:1046-53

Sleep, 20(8):608–613

Sleepiness, Driving, and Accidents

Sleep-Disordered Breathing and Motor Vehicle Accidents in a Population-Based Sample of Employed Adults

Terry Young, Joseph Blustein, Laurel Finn and Mari Palta

TABLE 2. *Association of SDB and 5-year MVA history estimated by adjusted OR, 95% CI; Sleep Cohort Study, n = 913*[a]

	Any MVA in 5 years			Mulitple MVA in 5 years		
SDB category	Women OR (95% CI)	Men OR (95% CI)	Total OR (95% CI)	Women OR (95% CI)	Men OR (95% CI)	Total OR (95% CI)
No SDB	(Reference category)					
Habitual snorer, AHI < 5	0.9 (0.5, 1.6)	3.4[b] (1.8, 6.9)	1.5[b] (1.0, 2.4)	3.3 (0.9, 12.0)	2.2 (0.7, 7.0)	2.9[b] (1.0, 8.6)
AHI 5–15	0.8 (0.3, 2.0)	4.2[b] (1.6, 11.3)	1.9 (0.9, 3.8)	4.5 (0.8, 25.0)	1.8 (0.2, 14.0)	3.1 (0.8, 12.7)
AHI > 15	0.6 (0.2, 2.5)	3.4[b] (1.4, 8.0)	1.6 (0.8, 3.1)	2.4 (0.2, 25.0)	11.9[b] (1.1, >25)	7.3[b] (1.8, >25)

SDB, sleep-disordered breathing; MVA, motor vehicle accident; OR, odds ratio; CI, confidence interval; AHI, apnea-plus-hypopnea index.
[a] Gender specific OR adjusted for age and miles driven per year; OR for total sample adjusted for age, miles driven per year, and gender.
[b] $p > 0.05$.

Ο ΑΗΙ σχετίζεται με την αποδοχή, συμμόρφωση και αποτελεσματικότητα της Θεραπείας με CPAP

Continuous positive airway pressure reduces daytime sleepiness in mild to moderate obstructive sleep apnoea: a meta-analysis

N S Marshall, M Barnes, N Travier, A J Campbell, R J Pierce, R D McEvoy, A M Neill, P H Gander

Thorax 2006;61:430–434. doi: 10.1136/thx.2005.050583

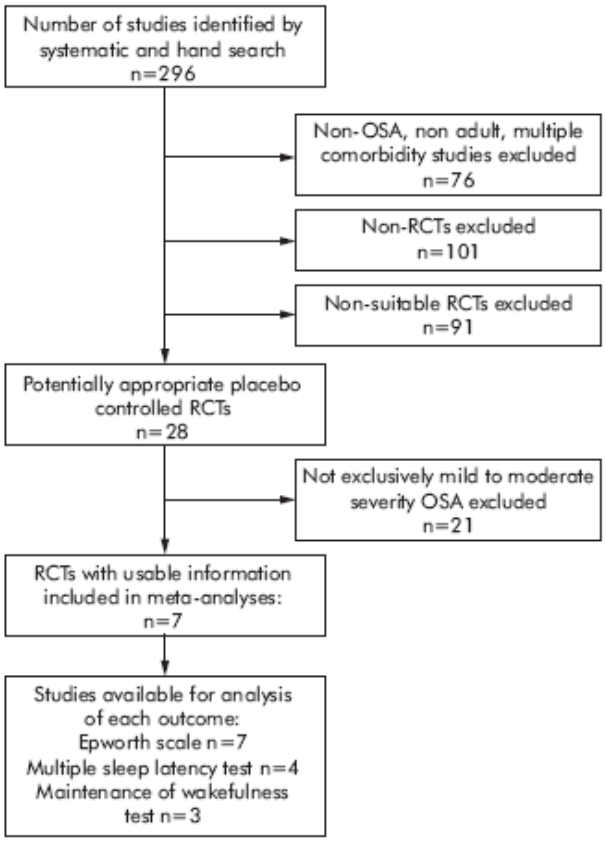


Figure 1 Trial inclusion flow chart.

Continuous positive airway pressure reduces daytime sleepiness in mild to moderate obstructive sleep apnoea: a meta-analysis

N S Marshall, M Barnes, N Travier, A J Campbell, R J Pierce, R D McEvoy, A M Neill, P H Gander

Thorax 2006;**61**:430–434. doi: 10.1136/thx.2005.050583

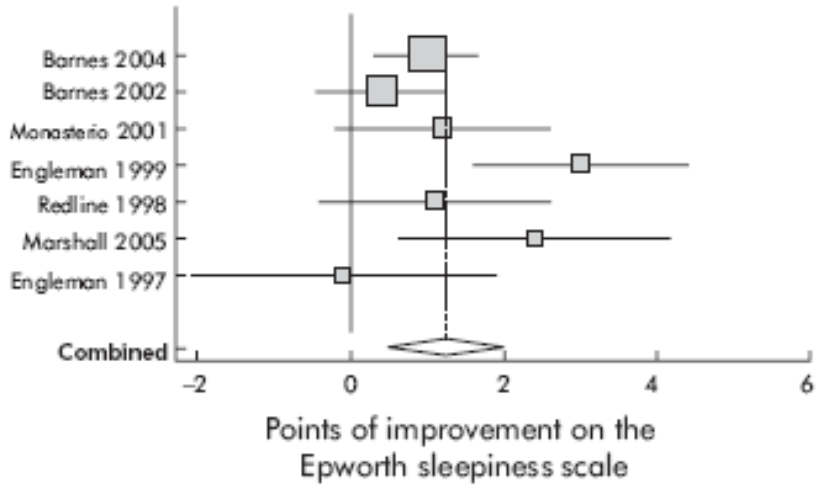


Figure 2 Forest plot indicating that Epworth sleepiness scores were significantly improved by CPAP treatment. First author and year of publication of source trial are listed on the vertical axis. Horizontal lines represent 95% confidence intervals from each indicated study for the effects of CPAP after adjustment for control. Elongated diamonds indicate the mean (apex of diamond) and 95% confidence intervals for the pooled estimate of the effect. The size of the shaded boxes represents the weight given to that study. Larger boxes are studies that have given more precise estimates and they tend to be larger.

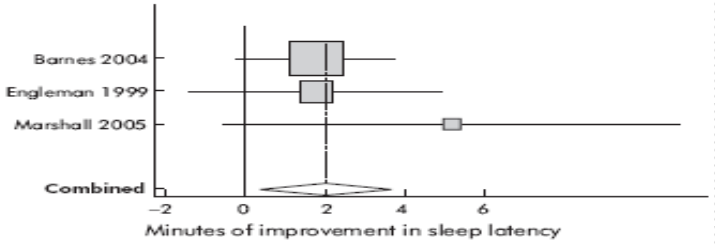


Figure 3 Forest plot indicating that Maintenance of Wakefulness Test (MWT) sleep latencies were significantly improved by CPAP therapy. First author and year of publication of source trial are listed on the vertical axis. Horizontal lines represent 95% confidence intervals from each indicated study for the effects of CPAP after adjustment for control. Elongated diamonds indicate the mean (apex of diamond) and 95% confidence intervals for the pooled estimate of the effect.

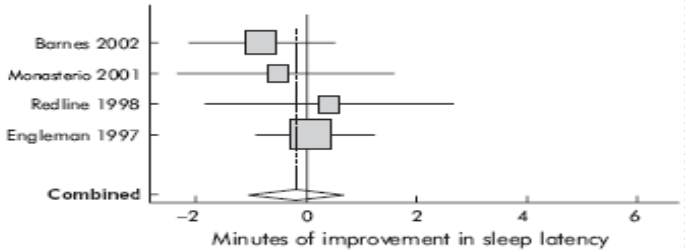


Figure 4 Forest plot indicating that Multiple Sleep Latency Test (MSLT) sleep latencies were not significantly improved by CPAP therapy. First author and year of publication of source trial are listed on the vertical axis. Horizontal lines represent 95% confidence intervals from each indicated study for the effects of CPAP after adjustment for control. Elongated diamonds indicate the mean (apex of diamond) and 95% confidence intervals for the pooled estimate of the effect.

Continuous Positive Airway Pressure Therapy for Treating Sleepiness in a Diverse Population With Obstructive Sleep Apnea

Results of a Meta-analysis

Sanjay R. Patel, MD; David P. White, MD; Atul Malhotra, MD; Michael L. Stanchina, MD; Najib T. Ayas, MD

Arch Intern Med. 2003:163:565-571

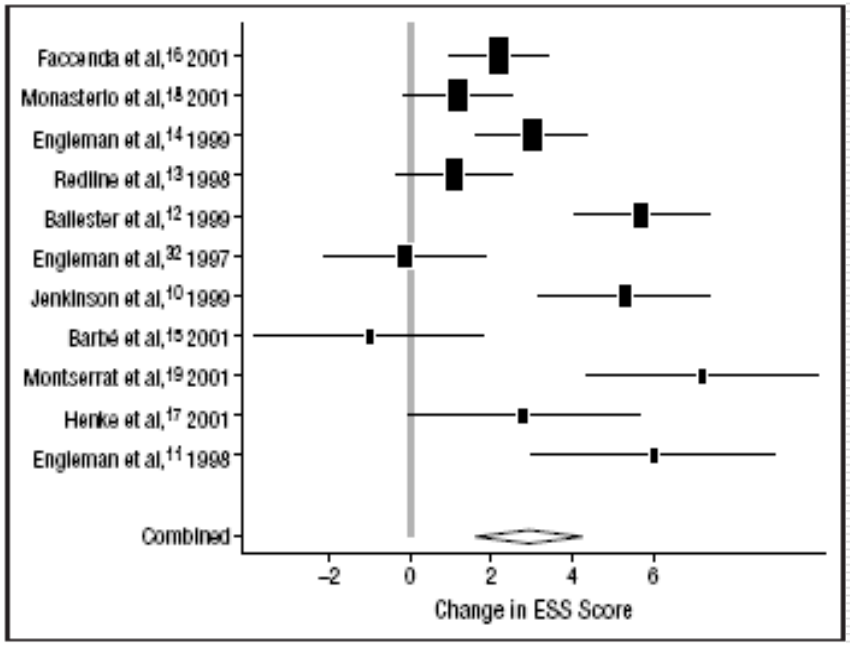
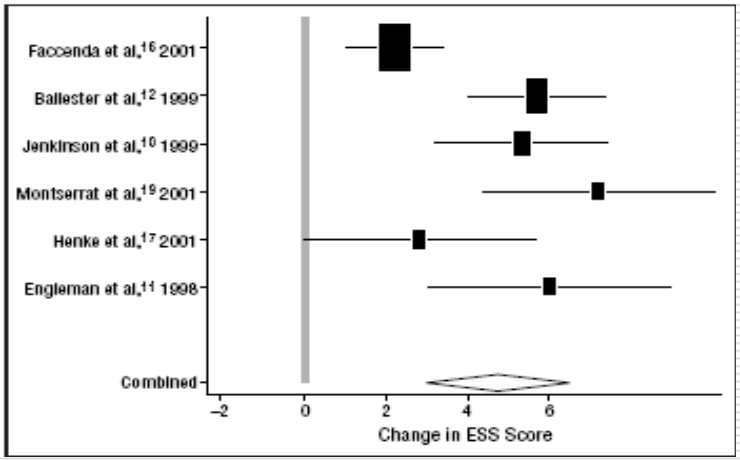
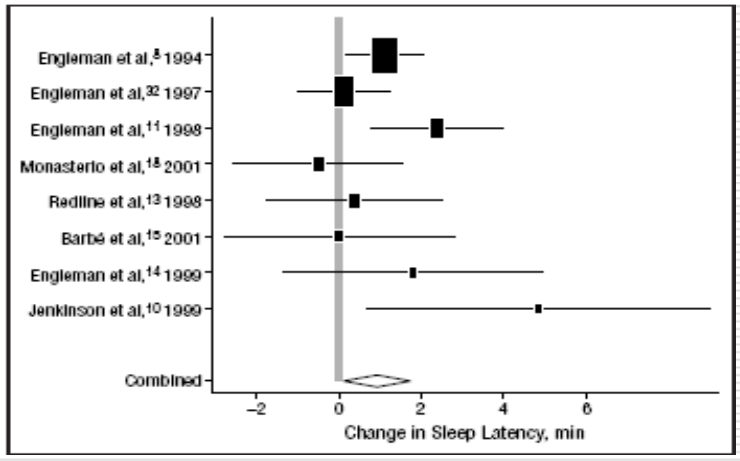


Figure 1. Effects of continuous positive airway pressure (CPAP) on change in Epworth Sleepiness Scale (ESS) score. Data are presented as means and 95% confidence intervals. A positive score indicates a more beneficial effect from CPAP than from placebo; x-axis, the difference between change in ESS score with CPAP and change in ESS score with placebo; y-axis, studies reporting change in ESS score (ordered by size of the SE); and diamond, the pooled effect (with a mean of 2.94).





Long-term Use of CPAP Therapy for Sleep Apnea/Hypopnea Syndrome

NIGEL McARDLE, GRAHAM DEVEREUX, HASSAN HEIDARNEJAD, HEATHER M. ENGLEMAN, THOMAS W. MACKAY, and NEIL J. DOUGLAS

Respiratory Medicine Unit, University of Edinburgh, Edinburgh, United Kingdom

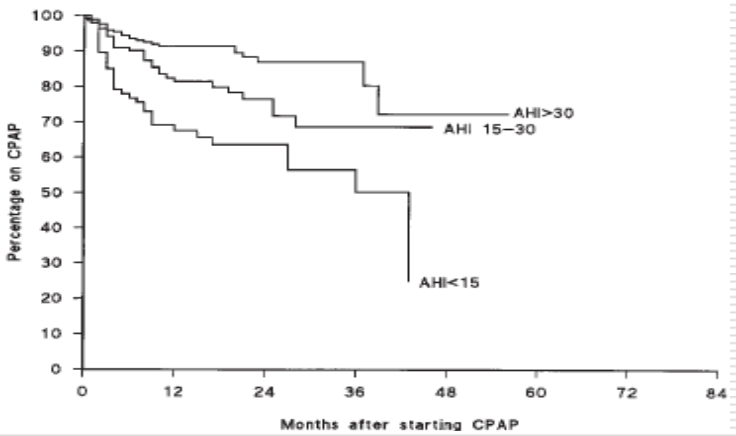
AM J RESPIR CRIT CARE MED 1999;159:1108–1114.

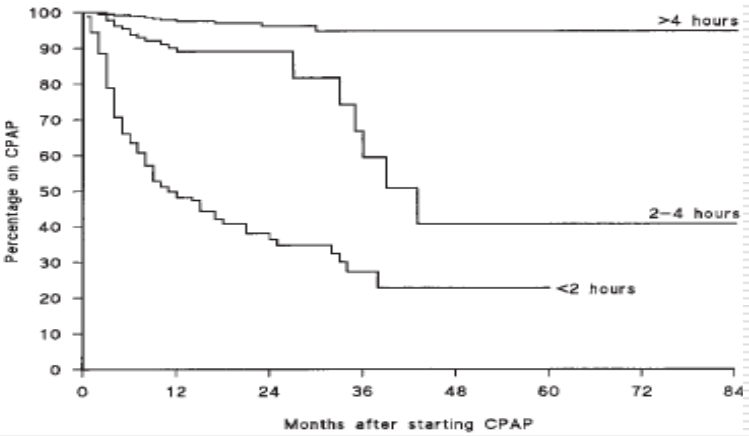
TABLE 3

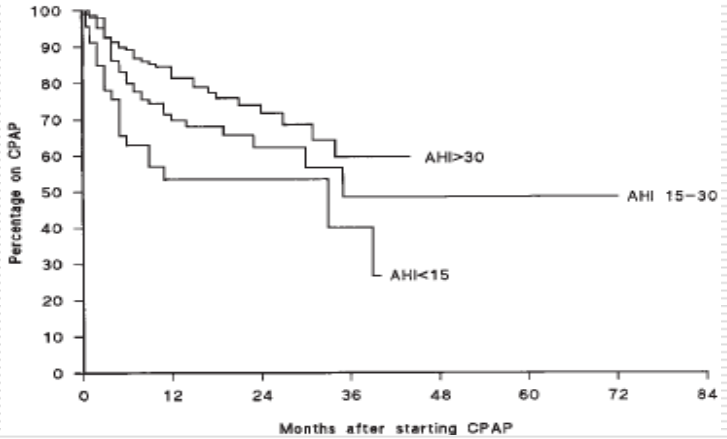
MULTIVARIATE ANALYSIS: INDEPENDENT VARIABLES INFLUENCING CONTINUED CPAP USE

	Hazard Ratio*	95% CI†	p Value
AHI < 15 versus AHI ≥ 15	2.48	1.79–3.46	< 0.001
Epworth ≤ 10 versus Epworth > 10	1.92	1.41–2.61	< 0.001
Nonsnorer versus snorer	2.76	1.29–5.95	0.009
CPAP use at 3 mo < 2 h versus ≥ 2 h	13.8	8.86–21.5	< 0.001

For definition of abbreviations, see Table 1.
* Relative risk of stopping CPAP.
† 95% confidence interval.







Health Care Utilization

2 yrs before and 2 yrs after CPAP use

CPAP users

- 413 hosp-days before treatment
- 54 hosp-days after treatment

CPAP nonusers

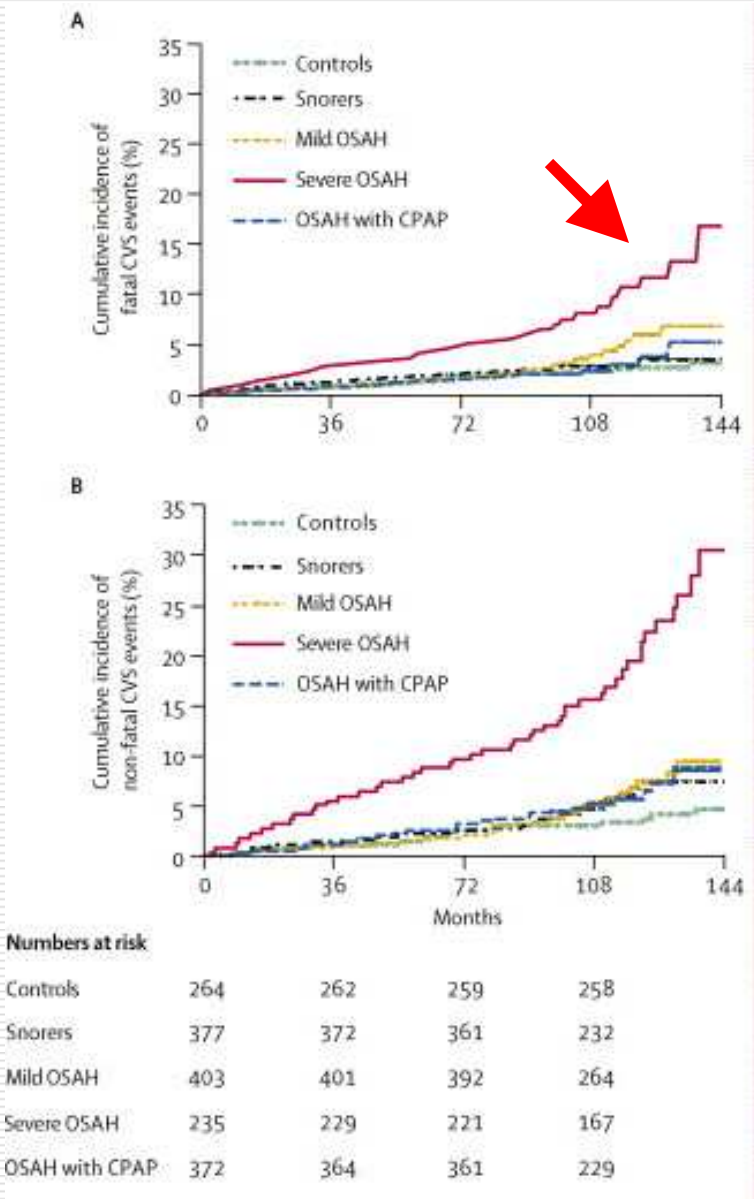
- 137 hosp-days before treatment
- 188 days after treatment

CPAP treatment reduces the need for acute hospital admission due to CVPD in patients with OSAS.

This reduction of concomitant health care consumption should be taken into consideration when assessing the cost-benefit evaluation of CPAP therapy.

Peker et al, SLEEP, 1997.

ΣΑΥΥ και καρδιακά νοσήματα



Ομάδες:

- **Υγιείς μάρτυρες (264)**
- **Ρογχαλιστές (377)**
- **Μη θεραπευόμενο ήπιο-μέτριο ΣΑΥΥ (403)**
- **Μη θεραπευόμενο σοβαρό ΣΑΥΥ (235)**
- **ΣΑΥΥ υπό CPAP (372)**

- **Σε μη θεραπευόμενο σοβαρό ΣΑΥΥ υπάρχει μεγαλύτερη επίπτωση θανατηφόρων και μη καρδιολογικών επιπλοκών σε σχέση με τις υπόλοιπες ομάδες (Χ 3 κίνδυνος σε σχέση με τους μάρτυρες)**

Marin J et al. Lancet 2005;365:1046-53

Long-term Effect of Continuous Positive Airway Pressure in Hypertensive Patients with Sleep Apnea

Ferran Barbé[1,2], Joaquín Durán-Cantolla[2,3], Francisco Capote[4], Monica de la Peña[2,5], Eusebi Chiner[6], Juan F. Masa[2,7], Mónica Gonzalez[8], Jose M. Marín[2,9], Francisco Garcia-Rio[10], Josefa Diaz de Atauri[11], Joaquín Terán[2,12], Mercedes Mayos[2,13], Carmen Monasterio[2,14], Felix del Campo[15], Sivia Gomez[1], Manuel Sanchez de la Torre[1,2], Montse Martinez[1,2], and José M. Montserrat[2,16], on behalf of the Spanish Sleep and Breathing Group*

Am J Respir Crit Care Med Vol 181. pp 718–726, 2010

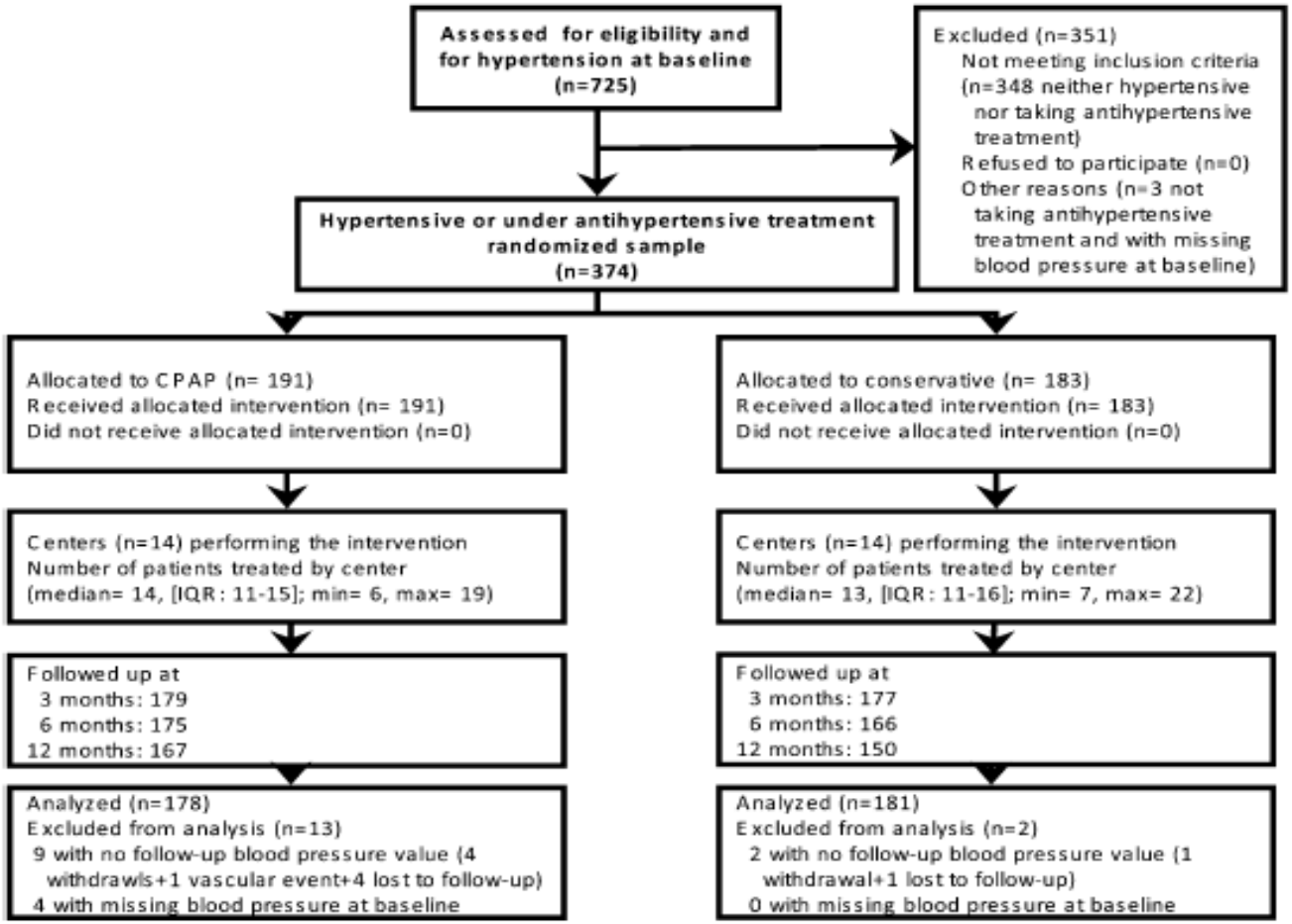


Figure 1. Flowchart of the study.

Long-term Effect of Continuous Positive Airway Pressure in Hypertensive Patients with Sleep Apnea

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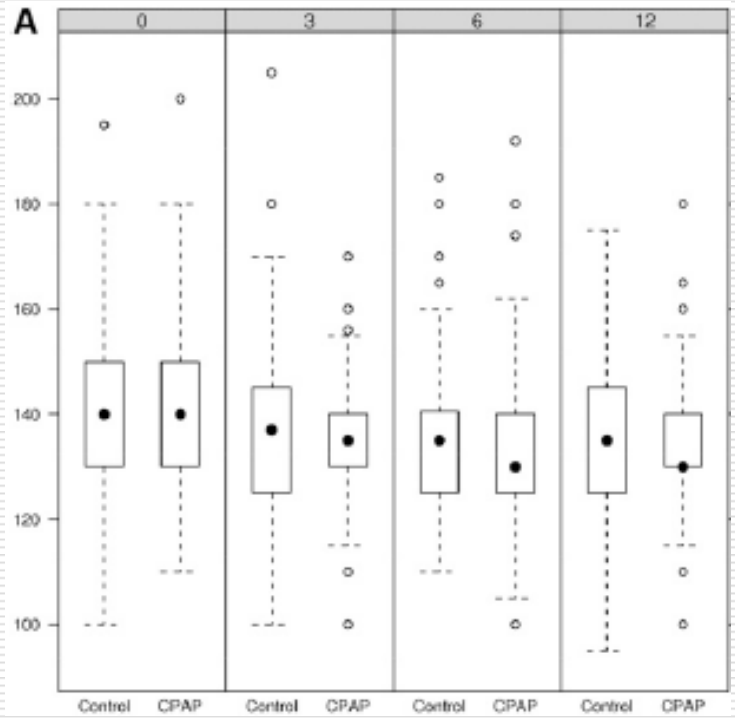

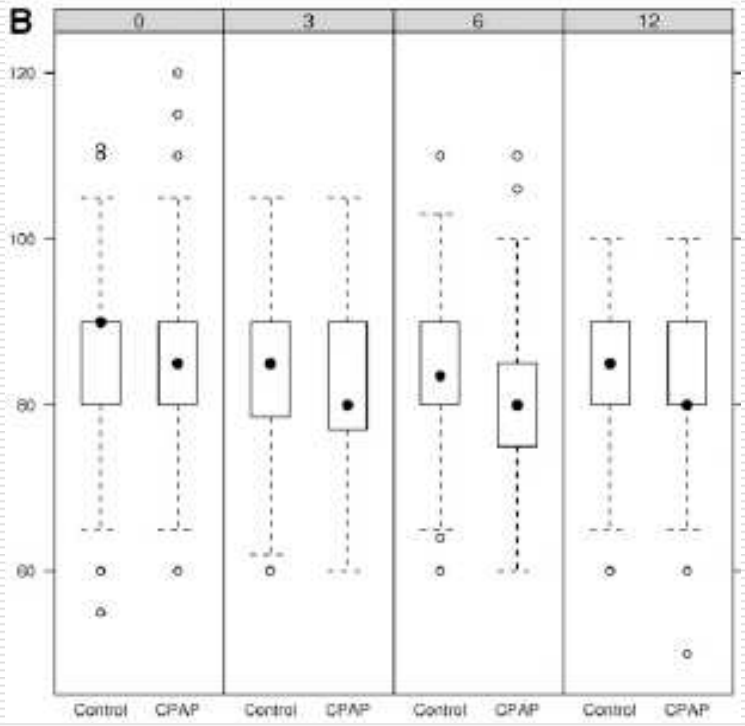

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TABLE 5. FOLLOW-UP CHANGE IN BLOOD PRESSURE, BY TREATMENT COMPLIANCE*

	Systolic Blood Pressure		Diastolic Blood Pressure		Epworth Sleepiness Scale Score	
Hours	Coeff (SE)	95% CI (*P* Value)	Coeff (SE)	95% CI (*P* Value)	Coeff (SE)	95% CI (*P* Value)
≤3.60	0.07 (1.692)	−3.98, 4.12 (*P* = 0.9688)	−1.38 (1.060)	−3.92, 1.15 (*P* = 0.1926)	−0.208 (0.3693)	−1.09, 0.68 (*P* = 0.5745)
3.61 to 5.65	−1.43 (1.461)	−4.93, 2.06 (*P* = 0.3273)	−1.18 (0.912)	−3.37, 1.00 (*P* = 0.1964)	−1.225 (0.3235)	−2.00, −0.45 (*P* = 0.0002)
>5.65	−3.73 (1.372)	−7.02, −0.45 (*P* = 0.0069)	−3.51 (0.857)	−5.57, −1.46 (*P* = 0.0001)	−1.357 (0.3013)	−2.08, −0.64 (*P* < 0.0001)

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- This study shows that CPAP treatment is associated with a small decrease in systolic and diastolic blood pressure in non sleepy hypertensive patients with OSA.
- This effect is evident only in patients who use CPAP more than 5.6 hours per night

Περιορισμοί

- Προβλήματα που προκύπτουν από τους κανόνες σταδιοποίησης (υπόπνοιες)
  - → Chicago 1999 AASM
  - → Recommended rules AASM 2007
  - → Alternative rules AASM 2007

- Οι αισθητήρες και η μέθοδος μελέτης ύπνου που χρησιμοποιούνται στις επιδημιολογικές μελέτες υπολείπονται σε ευαισθησία από αυτές των κλινικών μελετών → ποιο το όριο που διαχωρίζει το φυσιολογικό από τη νόσο?

- Τι είναι RERA? Ποια η κλινική σημασία του?

- Έλλειψη δεδομένων που να υποστηρίζουν τη θεραπεία σε ασθενείς με καθόλου ή ελάχιστη ημερήσια συμπτωματολογία

EVALUATION OF AASM SLEEP SCORING CRITERIA

The New AASM Criteria for Scoring Hypopneas: Impact on the Apnea Hypopnea Index

Warren R. Ruehland, BSc(Hons)[1]; Peter D. Rochford, BAppSc, Grad Dip Bio Instr[1]; Fergal J. O'Donoghue, MD, PhD[1]; Robert J. Pierce, MD[1]; Parmjit Singh, BSc(Hons), MBA[2]; Andrew T. Thornton, PhD[2]

[1]Institute for Breathing and Sleep, Austin Health, Heidelberg, Victoria, Australia; [2]Royal Adelaide Hospital, Adelaide, South Australia, Australia

Table 2—Apnea Hypopnea Indices and Hypopnea Indices Using Different Hypopnea Scoring Criteria

Hypopnea Definition	AHI (/h)	HI (/h)
Chicago	25.1 (11.1, 48.5)	16.3 (7.8, 26.4)
Recommended	8.3 (2.1, 26.4)	2.2 (0.5, 6.6)
Alternative	14.9 (5.5, 37.4)	7.2 (2.4, 15.0)

Values are median (interquartile range). $P < 0.001$ for all pair-wise comparisons

Table 3—Percentage of Patients Classified as Positive for OSA by Method and AHI Threshold for OSA Diagnosis (n = 323)

Hypopnea Definition	AHI Cut-off (events/h)		
	≥ 5	≥ 15	≥ 30
Chicago	92%	67%	42%
Recommended	59%	38%	22%
Alternative	76%	50%	31%

$P < 0.001$ for all pair-wise comparisons at all thresholds examined.

AASM Criteria for scoring Hypopnoeas: Impact on AHI—Ruehland et al. Sleep 2009

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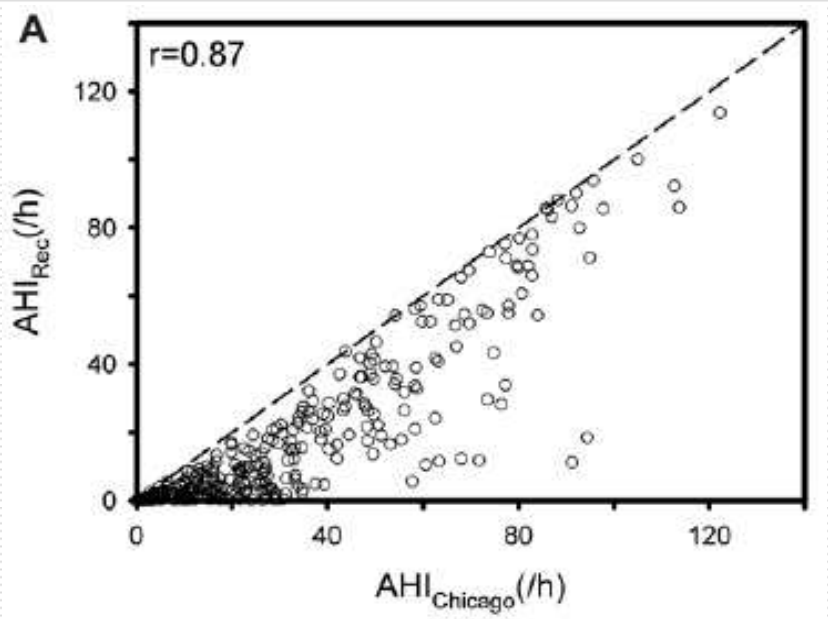

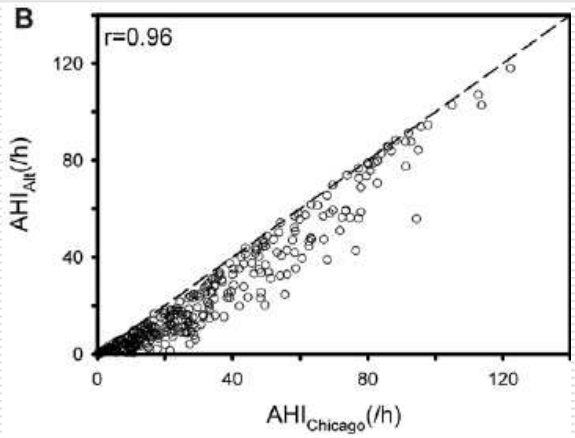

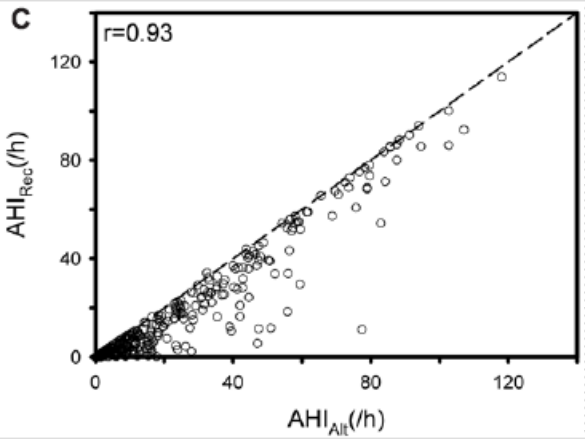

Λύσεις

- Χρήση αισθητήρων βάση των διεθνών οδηγιών
- Ενιαίοι ορισμοί
- Προσδιορισμός μεθόδων σταδιοποίησης
- Ποιος AHI είναι αυτός που προκαλεί κλινική συμπτωματολογία, βελτιώνει την αξιοπιστία, λαμβάνοντας υπόψιν συνοδούς παράγοντες

Συμπεράσματα

Ο AHI:

- είναι κλινικά και ερευνητικά χρήσιμος
- Σχετίζεται με την αποδοχή και την αποτελεσματικότητα της θεραπείας με CPAP

Ωστόσο:

- Δε θα πρέπει να αποτελεί το μόνο κριτήριο για να εξαιρεθούν ασθενείς από θεραπεία
- Αναγκαιότητα προσδιορισμού ενιαίου ορισμού για την υπόπνοια

Σας ευχαριστώ για την προσοχή σας