

**PRACTICE GUIDELINES FOR PERIOPERATIVE MANAGEMENT OF PATIENTS
WITH OBSTRUCTIVE SLEEP APNEA**
American Society of Anesthesiologists

Bibliography

1. Alchanatis M, Paradellis G, Pini H, Tourkohoriti G, Jordanoglou J: Left ventricular function in patients with obstructive sleep apnoea syndrome before and after treatment with nasal CPAP. *Respiration* 2000; 67:367-371
2. Alchanatis M, Tourkohoriti G, Kakouros S, Kosmas E, Podaras S, Jordanoglou JB: Daytime pulmonary hypertension in patients with obstructive sleep apnea: the effect of continuous positive airway pressure on pulmonary hemodynamics. *Respiration* 2001; 68:566-572
3. Anand VK, Ferguson PW, Schoen LS: Obstructive sleep apnea: a comparison of continuous positive airway pressure and surgical treatment. *Otolaryngol Head Neck Surg* 1991; 105:382-390
4. Andersson L, Brattstrom V: Cephalometric analysis of permanently snoring patients with and without obstructive sleep apnoea syndrome. *Int J Oral Maxillofac Surg* 1991; 20:159-162
5. Arens R, McDonough JM, Corbin AM, Rubin NK, Carroll ME, Pack AI, Liu J, Udupa JK: Upper airway size analysis by magnetic resonance imaging of children with obstructive sleep apnea syndrome. *Am J Respir Crit Care Med* 2003; 167:65-70
6. Arens R, McDonough JM, Costarino AT, Mahboubi S, Tayag-Kier CE, Maislin G, Schwab RJ, Pack AI: Magnetic resonance imaging of the upper airway structure of children with obstructive sleep apnea syndrome. *Am J Respir Crit Care Med* 2001; 164:698-703
7. Bacon WH, Krieger J, Turlot JC, Stierle JL: Craniofacial characteristics in patients with obstructive sleep apneas syndrome. *Cleft Pal J* 1988; 25:374-378
8. Bacon WH, Turlot JC, Krieger J, Stierle J-L: Cephalometric evaluation of pharyngeal obstructive factors in patients with sleep apnoeas syndrome. *Angle Orthod* 1990; 60:115-122
9. Baik UB, Suzuki M, Ikeda K, Sugawara J, Mitani H: Relationship between cephalometric characteristics and obstructive sites in obstructive sleep apnea syndrome. *Angle Orthod* 2002; 72:124-134
10. Ballester E, Badia JR, Hernandez L, Carrasco E, de Pablo J, Fornas C, Rodriguez-Roisin R, Montserrat JM: Evidence of the effectiveness of continuous positive airway pressure in the treatment of sleep apnea/hypopnea syndrome. *Am J Respir Crit Care Med* 1999; 159:495-501
11. Bartall HZ, Tye KH, Roper P, Desser KB, Benchimol A: Atrial flutter associated with obstructive sleep apnea syndrome: a case report. *Arch Intern Med* 1980; 140:121-122
12. Battagel JM, L'Estrange PR: The cephalometric morphology of patients with obstructive sleep apnoea (OSA). *Eur J Orthod* 1996; 18:557-569
13. Becker H, Brandenburg U, Peter JH, Peter JH, Von Wichert P: Reversal of sinus arrest and atrioventricular conduction block in patients with sleep apnea during nasal continuous positive airway pressure. *Am J Respir Crit Care Med* 1995; 151:215-218
14. Becker HF, Koehler U, Stammnitz A, Peter JH: Heart block in patients with sleep apnoea. *Thorax* 1998; 53:S29-S32
15. Behbehani K, Yen FC, Lucas EA, Burk JR: A sleep laboratory evaluation of an automatic positive airway pressure system for treatment of obstructive sleep apnea. *Sleep* 1998; 21:485-491

16. Biavati MJ, Manning SC, Phillips DL: Predictive factors for respiratory complications after tonsillectomy and adenoidectomy in children. *Arch Otolaryngol Head Neck Surg* 1997; 123:517-521
17. Biddle C: Comparative aspects of the airway during general anesthesia in obese sufferers of sleep apnea and matched normals. *Adv Pract Nurs Q* 1996; 2:14-19
18. Biddle C: Orocephalometry and airway control in obese sleep-disordered breathers, obese normals, and matched controls undergoing general anesthesia. *CRNA* 1994; 5:97-103
19. Biro P, Kaplan V, Bloch KE: Anesthetic management of a patient with obstructive sleep apnea syndrome and difficult airway access. *J Clin Anesth* 1995; 7:417-421
20. Bloch KE, Iseli A, Zhang JN, Xie X, Kaplan V, Stoeckli PW, Russi EW: A randomized, controlled crossover trial of two oral appliances for sleep apnea treatment. *Am J Respir Crit Care Med* 2000; 162:246-251
21. Bonham PE, Currier GF, Orr WC, Othman J, Nanda RS: The effect of a modified functional appliance on obstructive sleep apnea. *Am J Orthod Dentofacial Orthop* 1988; 94:384-392
22. Bonnet F, Bourgain JL, Mastamis D, Tesseire B, Viars P: The influence of position on ventilation-perfusion distribution after abdominal surgery. *Acta Anaesth Scand* 1988; 32:585-589
23. Boroweicki B, Pollak CP, Weitzman ED, Rakoff S, Imperato J: Fibro-optic study of pharyngeal airway during sleep in patients with hypersomnia obstructive sleep syndrome. *Laryngoscope* 1978; 88:1310-1313
24. Bradley TD, Brown IG, Grossman RF, Zamel N, Martinez D, Phillipson EA, Hoffstein V: Pharyngeal size in snorers, nonsnorers, and patients with obstructive sleep apnea. *N Engl J Med* 1986; 315:1327-1331
25. Brodsky JB, Lemmens HJ, Brock-Utne JG, Vierra M, Saidman LJ: Morbid obesity and tracheal intubation. *Anesth Analg* 2002; 95:783
26. Browman CP, Sampson MG, Yolles SF, Gujavarty KS, Weiler SJ, Walsleben JA, Hahn PM, Mitler MM: Obstructive sleep apnea and body weight. *Chest* 1984; 85:435-436
27. Brown IB, McClean PA, Boucher R, Zamel N, Hoffstein V: Changes in pharyngeal cross-sectional area with posture and application of continuous positive airway pressure in patients with obstructive sleep apnea. *Am Rev Respir Dis* 1987; 136:628-632
28. Buckley FP, Robinson NB, Simonwitz DA, Dellinger EP: Anaesthesia in the morbidly obese: a comparison of anaesthetic and analgesic regimens for upper abdominal surgery. *Anaesthesia* 1983; 38:840-851
29. Camu F, Debucquoy F: Alfentanil infusion for postoperative pain: A comparison of epidural and intravenous routes. *Anesthesiology* 1991; 75:171-178
30. Carrera M, Barbe F, Sauleda J, Tomas M, Gomez C, Agusti AG: Patients with obstructive sleep apnea exhibit genioglossus dysfunction that is normalized after treatment with continuous positive airway pressure. *Am J Respir Crit Care Med* 1999; 159:1960-1966
31. Carroll JL, McCollley SA, Marcus CL, Curtis S, Loughlin GM: Inability of clinical history to distinguish primary snoring from obstructive sleep apnea syndrome in children. *Chest* 1995; 108:610-618
32. Cartwright RD, Diaz F, Lloyd S: The effects of sleep posture and sleep stage on apnea frequency. *Sleep* 1991; 14:351-353
33. Cartwright RD, Samelson CF: The effects of a nonsurgical treatment for obstructive sleep apnea. *JAMA* 1982; 248:705-709
34. Cartwright RD: Effects of sleep position on sleep apnea severity. *Sleep* 1984; 7:110-114

35. Catley DM, Thornton C, Jordan C, Lehane JR, Royston D, Jones JG: Pronounced, episodic oxygen desaturation in the postoperative period: its association with ventilatory pattern and analgesic regimen. *Anesthesiology* 1985; 63:20-28
36. Charuzi I, Lavie P, Peiser J, Peled R: Bariatric surgery in morbidly obese sleep-apnea patients: short- and long-term follow-up. *Am J Clin Nutr* 1992; 55:594S-596S
37. Chauvin M, Hongnat JM, Mourgeon E, Lebrault C, Bellenfant P, Alfonsi P: Equivalence of postoperative analgesia with patient-controlled intravenous or epidural alfentanil. *Anesth Analg* 1993, 76:1251-1258
38. Christensen V: Respiratory depression after epidural morphine. *Br J Anaesth* 1980; 52:841
39. Clark GT, Arand D, Chung E, Tong D: Effect of anterior mandibular positioning on obstructive sleep apnea. *Am Rev Respir Dis* 1993; 147:624-629
40. Clark GT, Blumenfeld I, Yoffe N, Peled E, Lavie P: A crossover study comparing the efficacy of continuous positive airway pressure with anterior mandibular positioning devices on patients with obstructive sleep apnea. *Chest* 1996; 109:1477-1483
41. Clyburn PA, Rosen M, Vickers MD: Comparison of the respiratory effects of i.v. infusions of morphine and regional analgesia by extradural block. *Br J Anaesth* 1990; 64:446-449
42. Collop NA, Block AJ, Hellard D: The effect of nightly nasal CPAP treatment on underlying obstructive sleep apnea and pharyngeal size. *Chest* 1991; 99:855-860
43. Colmenero C, Esteban R, Albarino AR, Colmenero B: Sleep apnoea syndrome associated with maxillofacial abnormalities. *J Laryngol Otol* 1991; 105:94-100
44. Craig DB, Wahba WM, Don HF, Couture JG, Becklake MR: "Closing volume" and its relationship to gas exchange in seated and supine positions. *J Appl Physiol* 1971; 31:717-721
45. Croft CB, Brockbank MJ, Wright A, Swanston AR: Obstructive sleep apnoea in children undergoing routine tonsillectomy and adenoidectomy. *Clin Otolaryngol* 1990; 15:307-314
46. Cullen DJ: Obstructive sleep apnea and postoperative analgesia - a potentially dangerous combination. *J Clin Anesth* 2001; 13:83-85
47. Daley MD, Sandler AN, Turner KE, Vosu H, Slavchenko P: A comparison of epidural and intramuscular morphine in patients following cesarean section. *Anesthesiology* 1990, 72:289-294
48. Davies CW, Crosby JH, Mullins RL, Barbour C, Davies RJ, Stradling JR: Case-control study of 24 hour ambulatory blood pressure in patients with obstructive sleep apnoea and normal matched control subjects. *Thorax* 2000; 55:736-740
49. Davies RJ, Vardi-Visy K, Clarke M, Stradling JR: Identification of sleep disruption and sleep disordered breathing from the systolic blood pressure profile. *Thorax* 1993; 48:1242-1247
50. Davies RJO, Ali NJ, Stradling JR: Neck circumference and other clinical features in the diagnosis of the obstructive sleep apnoea syndrome. *Thorax* 1992; 47:101-105
51. Davies RJO, Stradling JR: The relationship between neck circumference, radiographic pharyngeal anatomy, and obstructive sleep apnoea syndrome. *Eur Respir J* 1990; 3:509-514
52. Dawson PJ, Libreri FC, Jones DJ, Libreri G, Bjorkstein AR, Royse CF: The efficacy of adding a continuous intravenous morphine infusion to patient-controlled analgesia (PCA) in abdominal surgery. *Anaesth Intensive Care* 1995, 23:453-458
53. DeBerry-Borowiecki B, Kukwa A, Blanks R: Cephalometric analysis for diagnosis and treatment of obstructive sleep apnea. *Laryngoscope* 1988; 98:226-234
54. Deegan PC, McNicolas WT: Predictive value of clinical features for the obstructive sleep apnoea syndrome. *Eur Respir J* 1996; 9:117-124

55. Dempsey JA, Skatrud JB, Jacques AJ, Ewanowski SJ, Woodson BT, Hanson PR, Goodman B: Anatomic determinants of sleep-disordered breathing across the spectrum of clinical and nonclinical male subjects. *Chest* 2002; 122:840-851
56. Dhonneur G, Combes X, Leroux B, Duvaldestin P: Postoperative obstructive apnea. *Anesth Analg* 1999; 89:762-767
57. Dixon BJ, Dixon JB, Carden JR, Burn AJ, Schachter LM, Playfair JM, Laurie CP, O'Brien PE: Preoxygenation is more effective in the 25° head-up position than in the supine position in severely obese patients: a randomized controlled study. *Anesthesiology* 2005; 102:1110-1115
58. Dixon JB, Schachter LM, O'Brien PE: Predicting sleep apnea and excessive day sleepiness in the severely obese: indicators for polysomnography. *Chest* 2003; 123:1134-1141
59. Do KL, Ferreyra H, Healy JF, Davidson TM: Does tongue size differ between patients with and without sleep-disordered breathing? *Laryngoscope* 2000; 110:1552-1555
60. Dominguez-Cherit G, Gonzalez R, Borunda D, Pedroza J, Gonzalez-Barranco J, Herrera MF: Anesthesia for morbidly obese patients. *World J Surg* 1998; 22:969-973
61. Doyle E, Harper I, Morton NS: Patient-controlled analgesia with low dose background infusions after lower abdominal surgery in children. *Br J Anaesth* 1993, 71:818-822
62. Doyle E, Robinson D, Morton NS: Comparison of patient-controlled analgesia with and without a background infusion after lower abdominal surgery in children. *Br J Anaesth* 1993, 71:670-673
63. Duran J, Esnaola S, Rubio R, Iztueta A: Obstructive sleep apnea-hypopnea and related clinical features in a population-based sample of subjects aged 30 to 70 yr. *Am J Respir Crit Care Med* 2001; 163:685-689
64. Dyken ME, Lin-Dyken DC, Poulton S, Zimmerman MB, Sedars E: Prospective polysomnographic analysis of obstructive sleep apnea in down syndrome. *Arch Pediatr Adolesc Med* 2003; 157:655-560
65. Dyken ME, Somers VK, Yamada T, Ren ZY, Zimmerman MB: Investigating the relationship between stroke and obstructive sleep apnea. *Stroke* 1996; 27:401-407
66. El-Baz N, Goldin M: Continuous epidural infusion of morphine for pain relief after cardiac operations. *J Thorac Cardiovasc Surg* 1987, 93:878-883
67. Ellis DJ, Millar WL, Reisner LS: A randomized double-blind comparison of epidural versus intravenous fentanyl infusion for analgesia after cesarean section. *Anesthesiology* 1990, 72:981-986
68. Engleman HM, Martin SE, Deary IJ, Douglas NJ: Effect of continuous positive airway pressure treatment on daytime function in sleep apnoea/hypopnoea syndrome. *Lancet* 1994; 343:572-575
69. Engleman HM, Martin SE, Deary IJ, Douglas NJ: Effect of CPAP therapy on daytime function in patients with mild sleep apnoea/hypopnoea syndrome. *Thorax* 1997; 52:114-119
70. Engleman HM, Martin SE, Kingshott RN, Mackay TW, Deary IJ, Douglas NJ: Randomised placebo controlled trial of daytime function after continuous positive airway pressure (CPAP) therapy for the sleep apnoea/hypopnoea syndrome. *Thorax* 1998; 53:341-345
71. Etches RC: Respiratory depression associated with patient-controlled analgesia: a review of eight cases. *Can J Anaesth* 1994; 41:125-132
72. Eveloff SE, Rosenberg CC, Carlisle C, Millman RP: Efficacy of a Herbst mandibular advancement device in obstructive sleep apnea. *Am Rev Crit Care Med* 1994; 149:905-909
73. Ezri T, Medalion B, Weisenberg M, Szmuk P, Warters RD, Charuzi I: Increased body mass index per se is not a predictor of difficult laryngoscopy. *Can J Anaesth* 2003; 50:179-183

74. Faccenda JF, Mackay TW, Boon NA, Douglas NJ: Randomized placebo-controlled trial of continuous positive airway pressure on blood pressure in the sleep apnea-hypopnea syndrome. *Am J Respir Crit Care Med* 2001; 163:344-348
75. Ferguson KA, Ono T, Lowe AA, al-Majed S, Love LL, Fleetham JA: A short-term controlled trial of an adjustable oral appliance for the treatment of mild to moderate obstructive sleep apnoea. *Thorax* 1997; 52:362-368
76. Ferguson KA, Ono T, Lowe AA, Keenan SP, Fleetham JA: A randomized crossover study of an oral appliance vs nasal-continuous positive airway pressure in the treatment of mild-moderate obstructive sleep apnea. *Chest* 1996; 109:1269-1275
77. Ferguson KA, Ono T, Lowe AA, Ryan F, Fleetham JA: The relationship between obesity and craniofacial structure in obstructive sleep apnoea. *Chest* 1995; 108:375-381
78. Fernandes do Prado LB, Li X, Thompson R, Marcus CL: Body position and obstructive sleep apnea in children. *Sleep* 2002; 25:66-71
79. Fletcher EC, De Behnke RD, Lovoi MS, Gorin AB: Undiagnosed sleep apnea in patients with essential hypertension. *Ann Intern Med* 1985; 103:190-195
80. Fogel RB, Malhotra A, Dalagiorgou G, Robinson MK, Jakab M, Kikinis R, Pittman SD, White DP: Anatomic and physiologic predictors of apnea severity in morbidly obese subjects. *Sleep* 2003; 26:150-155
81. Fogel RB, Malhotra A, Pillar G, Pittman SD, Dunaif A, White DP: Increased prevalence of obstructive sleep apnea syndrome in obese women with polycystic ovary syndrome. *J Clin Endocrinology Metabolism* 2001; 86:1175-1180
82. Fregosi RF, Quan SF, Karmingk KL, Morgan WJ, Goodwin JL, Caberera R, Gmitro A: Sleep-disordered breathing, pharyngeal size and soft tissue anatomy in children. *J Appl Physiol* 2003; 95:2030-2038
83. Friedman M, Tanyeri H, La Rosa M, Landsberg R, Vaidyanathan K, Pieri S, Caldarelli D: Clinical predictors of obstructive sleep apnea. *Laryngoscope* 1999; 109:1901-1907
84. Galvin JR, Rooholamini SA, Stanford W: Obstructive sleep apnea: diagnosis with ultrafast CT. *Radiology* 1989; 171:775-778
85. Gay PC, Herold DL, Olson EJ: A randomized, double-blind clinical trial comparing continuous positive airway pressure with a novel bilevel pressure system for treatment of obstructive sleep apnea syndrome. *Sleep* 2003; 26:864-869
86. Gentil B, de Larminat JM, Boucherez C, Lienhart A: Difficult intubation and obstructive sleep apnoea syndrome. *Br J Anaesth* 1994; 72:368
87. Gentil B, Lienhart A, Fleury B: Enhancement of postoperative desaturation in heavy snorers. *Anesth Analg* 1995; 81:389-392
88. George CF, Millar TW, Kryger MH: Sleep apnea and body position during sleep. *Sleep* 1988; 11:90-99
89. Goldstein NA, Sculerati N, Walsleben JA, Bhatia N, Friedman DM, Rapoport DM: Clinical diagnosis of pediatric obstructive sleep apnea validated by polysomnography. *Otolaryngol Head Neck Surg* 1994; 111:611-617
90. Grunstein R, Stenlof K, Hedner J, Sjostrom L: Impact of obstructive sleep apnea and sleepiness on metabolic and cardiovascular risk factors in the Swedish Obese Subjects (SOS) Study. *Int J Obes Relat Metab Disord* 1995; 19:410-418
91. Grunstein R, Wilcox I, Yang TS, Gould Y, Hedner J: Snoring and sleep apnoea in men: association with central obesity and hypertension. *Int J Obes Relat Metab Disord* 1993; 17:533-540
92. Guilleminault C, Connolly S, Winkle R: Cardiac arrhythmia and conduction disturbances during sleep in 400 patients with sleep apnea syndrome. *Am J Cardiol* 1983; 52:490-494

93. Guilleminault C, Li K, Chen NH, Poyares D: Two-point palatal discrimination in patients with upper airway resistance syndrome, obstructive sleep apnea syndrome, and normal control subjects. *Chest* 2002; 122:866-870
94. Guilleminault C, Philip P, Robinson A: Sleep and neuromuscular disease: bilevel positive airway pressure by nasal mask as a treatment for sleep disordered breathing in patients with neuromuscular disease. *J Neurol Neurosurg Psychiatry* 1998; 65:225-232
95. Guinard JP, Mavrocordatos P, Chiolero R, Carpenter RL: A randomized comparison of intravenous versus lumbar and thoracic epidural fentanyl for analgesia after thoracotomy. *Anesthesiology* 1992, 77:1108-1115
96. Gupta RM, Gay PC: Postoperative complications in patients with undiagnosed obstructive sleep apnea. *Sleep* 1999; 22(suppl):691
97. Gupta RM, Parvizi J, Hanssen AD, Gay PC: Postoperative complications in patients with obstructive sleep apnea syndrome undergoing hip or knee replacement: a case-control study. *Mayo Clin Proc* 2001; 76:897-905
98. Gurubhagavatula I, Maislin G, Pack AI: An algorithm to stratify sleep apnea risk in a sleep disorders clinic population. *Am J Respir Crit Care Med* 2001; 164:1904-1909
99. Gust R, Gottschalk A, Schmidt H, Bottiger BW, Bohrer H, Martin E: Effects of continuous (CPAP) and bi-level positive airway pressure (BiPAP) on extravascular lung water after extubation of the trachea in patients following coronary artery bypass grafting. *Intensive Care Med* 1996; 22:1345-1350
100. Gustafsson LL, Friberg-Nielsen S, Garle M, Mohall A, Rane A, Schildt B, Symreng T: Extradural and parenteral morphine: Kinetics and effects in postoperative pain. A controlled clinical study. *Br J Anaesth* 1982, 54:1167-1174
101. Harbison J, O'Reilly P, McNicholas WT: Cardiac rhythm disturbances in the obstructive sleep apnea syndrome: effects of nasal continuous positive airway pressure therapy. *Chest* 2000; 118:591-595
102. Harman EM, Wynne JW, Block AJ: The effect of weight loss on sleep-disordered breathing and oxygen desaturation in morbidly obese men. *Chest* 1982; 82:291-294
103. Hartzell CW: Sleeping beauty: a case of pickwickian syndrome. *J Emerg Nurs* 1989; 15:8-11
104. Hasenbos M, Simon M, van Egmond J, Folgering H, van Hoorn P: Postoperative analgesia by nicomorphine intramuscularly versus high thoracic epidural administration. Effects on ventilatory and airway occlusion pressure responses to CO₂. *Acta Anaesth Scand* 1986, 30:426-430
105. Hasenbos M, van Egmond J, Gielen M, Crul JF: Post-operative analgesia by epidural versus intramuscular nicomorphine after thoracotomy. Part II. *Acta Anaesth Scand* 1985, 29:577-582
106. Hasenbos M, van Egmond J, Gielen M, Crul JF: Post-operative analgesia by high thoracic epidural versus intramuscular nicomorphine after thoracotomy. Part III. The effects of pre- and post-operative analgesia on morbidity. *Acta Anaesth Scand* 1987, 31:608-615
107. Hattori H, Hattori C, Yonekura A, Nishimura T: Two cases of sleep apnea syndrome caused by primary hypothyroidism. *Acta Otolaryngol Suppl* 2003; 550:59-64
108. Henke KG, Grady JJ, Kuna SI: Effect of nasal continuous positive airway pressure on neuropsychological function in sleep apnea-hypopnea syndrome: a randomized, placebo-controlled trial. *Am J Respir Crit Care Med* 2001; 163:911-917
109. Hierl T, Humpfner-Hierl H, Frerich B, Heisgen U, Bosse-Henck A, Hemprich A: Obstructive sleep apnea syndrome: results and conclusions of a principal component analysis. *J Craniomaxillofac Surg* 1997; 25:181-185

110. Hiremath AS, Hillman DR, James AL, Noffsinger WJ, Platt PR, Singer SL: Relationship between difficult tracheal intubation and obstructive sleep apnea. *Br J Anaesth* 1998; 80:606-611
111. Hla KM, Young TB, Bidwell T, Palta M, Skatrud JB, Dempsey J: Sleep apnea and hypertension. A population-based study. *Ann Intern Med* 1994; 120:382-388
112. Hochban W, Brandenburg U: Morphology of the viscerocranium in obstructive sleep apnoea syndrome - cephalometric evaluation of 400 patients. *J Craniomaxillofac Surg* 1994; 22:205-213
113. Hoffman C, Nakamoto D, Okal R, Clochesy JM: Effect of transport time and FiO₂ on SpO₂ during transport from the OR to the PACU. *Nurse Anesth* 2:119-125, 1991
114. Hoffstein V, Mateika S: Cardiac arrhythmias, snoring, and sleep apnea. *Chest* 1994; 106:466-471
115. Hoffstein V, Mateika S: Differences in abdominal and neck circumferences in patients with and without sleep apnoea. *Eur Resp J* 1992; 5:377-381
116. Hoffstein V, Szalai JP: Predictive value of clinical features in diagnosing obstructive sleep apnea. *Sleep* 1993; 16:118-122
117. Horner RL, Mohiaddin RH, Lowell DG, Shea SA, Burman ED, Longmore DB, Guz A: Sites and sizes of fat deposits around the pharynx in obese patients with obstructive sleep apnoea and weight matched controls. *Eur Respir J* 1989; 2:613-622
118. Hsu HO, Hickey RF: Effect of posture on functional residual capacity postoperatively. *Anesthesiology* 1976; 44:520-521
119. Hung J, Whitford EG, Parsons RW, Hillman DR: Association of sleep apnoea with myocardial infarction in men. *Lancet* 1990; 336:261-264
120. Ichioika M, Tojy N, Yoshizawa M, Chida M, Miyazato I, Taniyai S, Marumo F, Nakazawa K, Hasegawa M: A dental device for the treatment of obstructive sleep apnea: a preliminary study. *Otolaryngol Head Neck Surg* 1991; 104:555-558
121. Inagaki Y, Mashimo T, Yoshiya I: Segmental analgesic effect and reduction of halothane MAC from epidural fentanyl in humans. *Anesth Analg* 1992; 74:856-864
122. Isono S, Remmers JE, Tanaka A, Sho Y, Sato J, Nishino T: Anatomy of pharynx in patients with obstructive sleep apnea and in normal subjects. *J Appl Physiol* 1997; 82:1319-1326
123. Isono S, Shimada A, Utsugi M, Konno A, Nishino T: Comparison of static mechanical properties of the passive pharynx between normal children and children with sleep-disordered breathing. *Am J Respir Crit Care Med* 1998; 157:1204-1212
124. Isono S, Suzukawa M, Sho Y, Ohmura A, Kudo Y, Misawa K, Inaba S, Nishino T: Preoperative nocturnal desaturations as a risk factor for late postoperative nocturnal desaturations. *Br J Anaesth* 1998; 80:602-605
125. Isono S, Tanaka A, Nishino T: Lateral position decreases collapsibility of the passive pharynx in patients with obstructive sleep apnea. *Anesthesiology* 2002; 97:780-785
126. Isono S, Tanaka A, Sho Y, Konno A, Nishino T: Advancement of the mandible improves velopharyngeal airway patency. *J Appl Physiol* 1995; 79:2132-2138
127. Issa FG, Sullivan CE: The immediate effects of nasal continuous positive airway pressure treatment on sleep pattern in patients with obstructive sleep apnea syndrome. *Electroencephalogr Clin Neurophysiol* 1986; 63:10-17
128. Itasaka Y, Miyazaki S, Ishikawa K, Togawa K: The influence of sleep position and obesity on sleep apnea. *Psychiatry Clin Neurosci* 2000; 54:340-341
129. Iwanaga K, Hasegawa K, Shibata N, Kawakatsu K, Akita Y, Suzuki K, Yagisawa M, Nishimura T: Endoscopic examination of obstructive sleep apnea syndrome patients during drug-induced sleep. *Acta Otolaryngol Suppl* 2003; 550:36-40

130. Jackson E, Schmidt H: Modification of sleep position in the treatment of obstructive sleep apnea. *Sleep Res* 1982; 11:149
131. Jacobson L, Phillips PD, Hull CJ, Conacher ID: Extradural versus intramuscular diamorphine. A controlled study of analgesic and adverse effects in the postoperative period. *Anaesthesia* 1983, 38:10-18
132. Jamieson A, Guilleminault C, Partinin M, Quera-Salva MA: Obstructive sleep apneic patients have craniomandibular abnormalities. *Sleep* 1986; 9:469-477
133. Jenkinson C, Davies RJO, Mullins R, Stradling JR: Comparison of therapeutic and subtherapeutic nasal continuous positive airway pressure for obstructive sleep apnoea: a randomised prospective parallel trial. *Lancet* 1999; 353:2100-2105
134. Jenkinson C, Stradling J, Petersen S: How should we evaluate health status? A comparison of three methods in patients presenting with obstructive sleep apnoea. *Qual Life Res* 1998; 7:95-100
135. Kapuniai LE, Andrew DJ, Crowell DH, Pearce JW: Identifying sleep apnea from self-reports. *Sleep* 1988; 11:430-436
136. Katsumata K, Okada T, Miyao M, Katsumata Y: High incidence of sleep apnea syndrome in a male diabetic population. *Diabetes Res Clin Pract* 1991; 13:45-51
137. Katz I, Stradling J, Slutsky AS, Zamel N, Hoffstein V: Do patients with obstructive sleep apnea have thick necks? *Am Rev Respir Dis* 1990; 141:1228-1231
138. Keamy MF, Cadieux RJ, Kofke WA, Kales A: The occurrence of obstructive sleep apnea in a recovery room patient. *Anesthesiology* 1987; 66:232-234
139. Kiely JL, Murphy M, McNicholas WT: Subjective efficacy of nasal CPAP therapy in obstructive sleep apnoea syndrome: a prospective controlled study. *Eur Respir J* 1999; 13:1086-1090
140. Knill RL, Clement JL, Thompson WR: Epidural morphine causes delayed and prolonged ventilatory depression. *Can Anaesth Soc J* 1981; 28:537-543
141. Koehler U, Fus E, Grimm W, Pankow W, Schafer H, Stammnitz A, Peter JH: Heart block in patients with obstructive sleep apnea: pathogenetic factors and effects of treatment. *Eur Respir J* 1998; 11:434-439
142. Koehler U, Schafer H: Is obstructive sleep apnea a risk factor for myocardial infarction and cardiac arrhythmias in patients with coronary heart disease? *Sleep* 1996; 19:283-286
143. Konermann M, Sanner BM, Vyleta M, Laschewski F, Groetz J, Sturm A, Zidek W: Use of conventional and self-adjusting nasal continuous positive airway pressure for treatment of severe obstructive sleep apnea syndrome: a comparative study. *Chest* 1998; 113:714-718
144. Kraiczl H, Peker Y, Caidahl K, Samuelsson A, Hedner J: Blood pressure, cardiac structure and severity of obstructive sleep apnea in a sleep clinic population. *J Hypertens* 2001; 19:2071-2078
145. Krieger J, Sforza E, Apprill M, Lampert E, Weitzenblum E, Ratomaharo J: Pulmonary hypertension, hypoxemia and hypercapnea in obstructive sleep apnea patients. *Chest* 1989; 96:729-737
146. Krieger JE, Weitzenblum E, Monassier JP: Dangerous hypoxemia during continuous positive airways pressure treatment of obstructive sleep apnea. *Lancet* 1983; 2:1429-1430
147. Kump K, Whalen C, Tishler PV, Browner I, Ferrette V, Strohl KP, Rosenberg C, Redline S: Assessment of the validity and the utility of a sleep-symptom questionnaire. *Am J Respir Crit Care Med* 1994; 150:735-741
148. Kushida CA, Efron B, Guilleminault C: A predictive morphometric model for the obstructive sleep apnea syndrome. *Ann Int Med* 1997; 127:581-587

149. Laaban JP, Cassuto D, Orvoen-Frija E, Iliou M-C, Mundler O, Leger D, Oppert J-M: Cardiorespiratory consequences of sleep apnea syndrome in patients with massive obesity. *Eur Respir J* 1998; 11:20-27
150. Laks L, Lehrhaft B, Grunstein RR, Sullivan CE: Pulmonary hypertension in obstructive sleep apnoea. *Eur Respir J* 1995; 8:537-541
151. Lamarche Y, Martin R, Reiher J, Blaise G: The sleep apnoea syndrome and epidural morphine. *Can Anaesth Soc J* 1986; 33:231-233
152. Lamphere J, Roehrs T, Wittig R, Zorick F, Conway WA, Roth T: Recovery of alertness after CPAP in apnea. *Chest* 1989; 1364-1367
153. Laursen SB, Dreijer B, Hemmingsen C, Jacobsen E: Bi-level positive airway pressure treatment of obstructive sleep apnoea syndrome. *Respiration* 1998; 65:114-119
154. Lavie P, Herrer P, Hoffstein V: Obstructive sleep apnea syndrome as a risk factor for hypertension: population study. *BMJ* 2000; 320:479-482
155. Levine OR, Simpser M. Alveolar hypoventilation and cor pulmonale associated with chronic airway obstruction in infants with Down syndrome. *Clin Pediatr* 1982, 21:25-29
156. Levy P, Pepin JL, Deschaux-Blanc C, Paramelle B, Brambilla C: Accuracy of oximetry for detection of respiratory disturbances in sleep apnea syndrome. *Chest* 1996; 109:395-399
157. Liistro G, Rombaux P, Belge C, Dury M, Aubert G, Rodenstein DO: High Mallampati score and nasal obstruction are associated risk factors for obstructive sleep apnoea. *Eur Respir J* 2003; 21:248-252
158. Liston R, Deegan P, McCreery C, McNicholas WT: Role of respiratory sleep disorders in the pathogenesis of nocturnal angina and arrhythmias. *Postgrad Med J* 1994; 70:275-280
159. Lofaso F, Coste A, d'Ortho MP, Zerah-Lancner F, Delclaux C, Goldenberg F, Harf A: Nasal obstruction as a risk factor for sleep apnoea syndrome. *Eur Respir J* 2000; 16:639-643
160. Logan AG, Perlikowski SM, Mente A, Tisler A, Niroumand M, Leung RS, Bradley TD: High prevalence of unrecognized sleep apnea in drug-resistant hypertension. *J Hypertens* 2001; 19:2271-2277
161. Lorch DG, Sahn SA: Post-extubation pulmonary edema following anesthesia induced by upper airway obstruction. Are certain patients at increased risk? *Chest* 1986; 90:802-805
162. Loreda JS, Ancoli-Israel S, Dimsdale JE: Effect of continuous positive airway pressure vs placebo continuous positive airway pressure on sleep quality in obstructive sleep apnea. *Chest* 1999; 116:1545-1549
163. Lowe AA, Santamaria JD, Fleetham JA, Price C: Facial morphology and obstructive sleep apnoea. *Am J Orthod Dentofac Orthop* 1986; 90:484-491
164. Lowe AA, Ono T, Ferguson KA, Pae EK, Ryan CF, Fleetham JA: Cephalometric comparisons of craniofacial and upper airway morphology by skeletal subtype and gender in patients with obstructive sleep apnea. *Am J Orthod Dentofacial Orthop* 1996; 110:653-654
165. Lyberg T, Krogstad O, Djupesland G: Cephalometric analysis in patients with obstructive sleep apnoea syndrome: II. Soft tissue morphology. *J Laryngol Otol* 1989; 103:293-297
166. Magalang UJ, Domochoowski J, Veeramachaneni S, Draw A, Mador MJ, El Solh A, Grant BJB: Prediction of the Apnea-Hypopnea Index From Overnight Pulse Oximetry. *Chest* 2003; 124:1694-1701
167. Marcus CL, Keens TG, Bautista DB, von Pechmann WS, Ward Davidson SL: Obstructive sleep apnea in children with Down syndrome. *Pediatrics* 1991; 88:132-139
168. Marcus CL, Ward SLD, Mallory GB, Rosen CL, Beckerman RC, Weese-Mayer DE, Brouillette RT, Trant HT. Use of nasal continuous positive airway pressure as treatment of childhood obstructive sleep apnea. *J Pediatr* 1995, 127:88-94

169. Mathes DD, Conaway MR, Ross WT: Ambulatory surgery: room air versus nasal cannula oxygen during transport after general anesthesia. *Anesth Analg* 93:917-921, 2001
170. Mayer P, Pepin JL, Bettega G, Veale D, Ferretti G, Deschaux C, Levy P: Relationship between body mass index, age and upper airway measurements in snorers and sleep apnoea patients. *Eur Respir J* 1996; 9:1801-1809
171. Mcevoy RD, Sharp DJ, Thornton AT: The effects of posture on obstructive sleep apnea. *Am Rev Respir Dis* 1986; 133:662
172. McNeely JK, Trentadue NC: Comparison of patient-controlled analgesia with and without nighttime morphine infusion following lower extremity surgery in children. *J Pain Symptom Manage*. 1997, 13:268-273.
173. Mehta A Qian J, Petocz P, Darendeliler MA, Cistulli PA: A randomized, controlled study of a mandibular advancement splint for obstructive sleep apnea. *Am J Respir Crit Care Med* 2001; 163:1457-1461
174. Meurice JC, Marc I, Carrier G, Series F: Efficiency of auto-CPAP in the treatment of obstructive sleep apnea/hypopnea syndrome. *Am J Respir Crit Care Med* 1996; 153:794-798
175. Miller WP: Cardiac arrhythmias and conduction disturbances in the sleep apnea syndrome: prevalence and significance. *Am J Med* 1982; 73:317-321
176. Minemura H, Akashiba T, Yamamoto H, Akahoshi T, Kosaka N, Horie T: Acute effects of nasal continuous positive airway pressure on 24-hour blood pressure and catecholamines in patients with obstructive sleep apnoea. *Int Med* 1998; 37:1009-1013
177. Montserrat JM, Ferrer M, Hernandez L, Farre R, Vilagut G, Navajas D, Badia JR, Carrasco E, De Pablo J, Ballester E: Effectiveness of CPAP treatment in daytime function in sleep apnea syndrome: a randomized controlled study with an optimized placebo. *Am J Respir Crit Care Med* 2001; 164:608-613
178. Mortimore IL, Marshall I, Wraith PK, Sellar RJ, Douglas NJ: Neck and total body fat deposition in nonobese and obese patients with sleep apnea compared with that in control subjects. *Am J Resp Crit Care Med* 1998; 157:280-283
179. Moura SM, Bittencourt LR, Bagnato MC, Lucas SR, Tufik S, Nery LE: Acute effect of nasal continuous positive air pressure on the ventilatory control of patients with obstructive sleep apnea. *Respiration* 2001; 68:243-249
180. Mynster T, Jensen LM, Jensen FG, Kehlet H, Rosenberg J: The effect of posture on late postoperative oxygenation. *Anaesthesia* 1996; 51:225-227
181. Naganuma H, Okamoto M, Woodson BT, Hirose H: Cephalometric and fiberoptic evaluation as a case-selection technique for obstructive sleep apnea syndrome (OSAS). *Acta Otolaryngol Suppl* 2002; 547:57-63
182. Nakazawa K, Ikeda D, Ishikawa S, Makita K: A case of difficult airway due to lingual tonsillar hypertrophy in a patient with Down's syndrome. *Anesth Analg* 2003; 97:704-705
183. Nakazawa Y, Sakamoto T, Sasutake R, Yamaga K, Kotorii T, Miyahara Y, Ariyoshi Y, Kameyama T: Treatment of sleep apnea with prosthetic mandibular advancement (PMA). *Sleep* 1992; 15:499-514
184. Neill AM, Angus SM, Sajkov D, McEvoy D: Effects of sleep posture on upper airway stability in patients with obstructive sleep apnea. *Am J Respir Crit Care Med* 1997; 155:1999-2004
185. Nieminen P, Tolonen U, Lopponen H: Snoring and obstructive sleep apnea in children: a 6-month follow-up study. *Arch Otolaryngol Head Neck Surg* 2000; 126:481-486
186. Nieto FJ, Young TB, Lind SK, Shahar E, Samet JM, Redline S, D'Agostino RB, Newman AB, Lebowitz M, Pickering TG: Association of sleep-disordered breathing, sleep apnea,

- and hypertension in a large community-based study. *Sleep Heart Health Study. JAMA* 2000; 283:1829-1836
187. Olson LG, Ambrogetti A, Gyulay SG: Prediction of sleep-disordered breathing by unattended overnight oximetry. *J Sleep Res* 1999; 8:51-55
 188. Ostermeier AM, Roizen MF, Hautkappe M, Klock PA, Klafta JM: Three sudden postoperative respiratory arrests associated with epidural opioids in patients with sleep apnea. *Anesth Analg* 1997; 85:452-460
 189. O'Sullivan RA, Hillman DR, Mateljan R, Pantin C, Finucane KE: Mandibular advancement splint: an appliance to treat snoring and obstructive sleep apnea. *Am J Respir Crit Care Med* 1995; 151:194-198
 190. Owen H, Kluger MT, Ilsley AH, Baldwin AM, Fronsco RR, Plummer JL: The effect of fentanyl administered epidurally by patient-controlled analgesia, continuous infusion, or a combined technique of oxyhaemoglobin saturation after abdominal surgery. *Anaesthesia* 1993, 48:20-25
 191. Pae E, Lowe AA, Sasaki K, Price C, Tsuchiya M, Fleetham JA: A cephalometric and electromyographic study of upper airway structures in the upright and supine position. *Am J Orthod Dentofac Orthop* 1994; 106:52-59
 192. Paoli JR, Lauwers F, Lacassagne L, Tiberge M, Dodart L, Boutault F: Craniofacial differences according to the body mass index of patients with obstructive sleep apnoea syndrome: cephalometric study in 85 patients. *Br J Oral Maxillofac Surg* 2001; 39:40-45
 193. Papageorge MB, Hunter MJ, Norris LH, Rosenberg MB: Supplemental oxygen after outpatient oral and maxillofacial surgery. *Anesth Prog* 39:24-27, 1993
 194. Parikh SN, Stuchin SA, Maca C, Fallar E, Steiger D: Sleep apnea syndrome in patients undergoing total joint arthroplasty. *J Arthroplasty* 2002; 17:635-642
 195. Partinen M, Guilleminault C, Salva Ma Quera, Jamieson A: Obstructive sleep apnea and cephalometric roentgenograms. The role of anatomic upper airway abnormalities in the definition of abnormal breathing during sleep. *Chest* 1998; 93:1199-1205
 196. Patel R, Norden J, Hannallah RS: Oxygen administration prevents hypoxemia during post-anesthetic transport in children. *Anesthesiology* 69:616-618, 1988
 197. Peiser J, Ovnat A, Uwyed K, Lavie P, Charuzi I: Cardiac arrhythmias during sleep in morbidly obese sleep-apneic patients before and after gastric bypass surgery. *Clin Cardiol* 1985; 8:519-521
 198. Pellecchia DJ, Bretz KA, Barnette RE: Postoperative pain control by means of epidural narcotics in a patient with obstructive sleep apnea. *Anesth Analg* 1987; 66:280-282
 199. Penzel T, Moller M, Becker HF, Knaack L, Peter JH: Effect of sleep position and sleep stage on the collapsibility of the upper airways in patients with sleep apnea. *Sleep* 2001; 24:90-95
 200. Pepin JL, Leger P, Veale D, Langevin B, Robert D, Levy P: Side effects of nasal continuous positive airway pressure in sleep apnea syndrome. *Chest* 1995; 107:375-381
 201. Peppard PE, Young TB, Palta M, Skatrud J: Prospective study of the association between sleep-disordered breathing and hypertension. *N Engl J Med* 2000; 342:1378-1384
 202. Pevernagie DA, Shepard JW: Relations between sleep stage, posture and effective nasal CPAP levels in OSA. *Sleep* 1992; 15:162-167
 203. Pevernagie DA, Stanton AW, Sheedy PF 2nd, Daniels BK, Shepard JW Jr: Effects of body position on the upper airway of patients with obstructive sleep apnea. *Am J Respir Crit Care Med* 1995; 152:179-185
 204. Phillips BA, Okeson J, Pawsani D, Gilmore R: Effect of sleep position on sleep apnea and parafunctional activity. *Chest* 1986; 90:424-429

205. Piper JG, Dirks BA, Traynelis VC, VanGilder JC: Perioperative management and surgical outcome of the acromegalic patient with sleep apnea. *Neurosurgery* 1995; 36:70-74
206. Planes C, D'Ortho MP, Foucher A, Berkani M, Leroux K, Essalhi M, Delclaux C, Quera-Salva MA, Lofaso F: Efficacy and cost of home-initiated auto-nCPAP versus conventional nCPAP. *Sleep* 2003; 26:156-160
207. Prachartam N, Hans MG, Strohl KP, Redline S: Upright and supine cephalometric evaluation of obstructive sleep apnea syndrome and snoring subjects. *Angle Orthod* 1994; 64:63-73
208. Pradhan PS, Gliklich RE, Winkelman J: Screening for obstructive sleep apnea in patients presenting for snoring surgery. *Laryngoscope* 1997; 106:1393-1397 Erratum in: *Laryngoscope* 1997; 107:149
209. Preis C, Czerny C, Preis I, Zimpfer M: Variations in ILMA external diameters: another cause of device failure. *Can J Anaesth* 2000; 47:886-889
210. Price SD, Hawkins DB, Kahlstrom EJ. Tonsil and adenoid surgery for airway obstruction: perioperative respiratory morbidity. *Ear Nose Throat J* 1993, 72:526-31
211. Rafferty TD, Ruskis A, Sasaki C, Gee JB: Perioperative considerations in the management of tracheotomy for the obstructive sleep apnoea patient. Three illustrative case reports. *Br J Anaesth* 1980 ;52:619-622
212. Rajala R, Partinent M, Sane T, Palkonen R, Huikuri K, Seppalainen AM: Obstructive sleep apnoea syndrome in morbidly obese patients. *J Intern Med* 1991; 230:125-129
213. Rama PR, Sharma SC: Sleep apnea and complete heart block. *Clin Cardiol* 1994; 17:675-677
214. Randazzo DN, Winters SL, Schweitzer P: Obstructive sleep apnea-induced supraventricular tachycardia. *J Electrocardiol* 1996; 29:65-67
215. Randerath WJ, Heise M, Hinz R, Ruehle KH: An individually adjustable oral appliance vs continuous positive airway pressure in mild-to-moderate obstructive sleep apnea syndrome. *Chest* 2002; 122:569-575
216. Rawal N, Sjostrand U, Christoffersson E, Dahlstrom B, Arvill A, Rydman H: Comparison of intramuscular and epidural morphine for postoperative analgesia in the grossly obese: Influence on postoperative ambulation and pulmonary function. *Anesth Analg* 1984, 63:583-592
217. Reeder MK, Goldman MD, Loh L, Muir AD, Casey KR, Gitlin DA: Postoperative obstructive sleep apnoea. Haemodynamic effects of treatment with nasal CPAP. *Anaesthesia* 1991; 46:849-853
218. Reeder MK, Goldman MD, Loh L, Muir AD, Casey KR, Lehane JR: Late postoperative nocturnal dips in oxygen saturation in patients undergoing major abdominal vascular surgery: predictive value of pre-operative overnight pulse oximetry. *Anaesthesia* 1992; 47:110-115
219. Reeves-Hoche K, Hudgel DW, Meck R, Witteman R, Ross A, Zwillich CW: Continuous versus bilevel positive airway pressure for obstructive sleep apnea. *Am J Respir Crit Care Med* 1995; 151:443-449
220. Reisch S, Daniuk J, Steltner H, Ruhle KH, Timmer J, Guttman J: Detection of sleep apnea with the forced oscillation technique compared to three standard polysomnographic signals. *Respiration* 2000; 67:518-525
221. Rennotte MT, Baele P, Aubert G, Rodenstein DO: Nasal continuous positive airway pressure in the perioperative management of patients with obstructive sleep apnea submitted to surgery. *Chest* 1995; 107:367-374

222. Resta O, Foschino-Barbaro MP, Legari G, Talamo S, Bonfitto P, Palumbo A, Minenna A, Giorgino R, De Pergola G: Sleep-related breathing disorders, loud snoring and excessive daytime sleepiness in obese subjects. *Int J Obes Relat Metab Disord* 2001; 25:669-675
223. Resta O, Guido P, Picca V, Sabato R, Rizzi M, Scarpelli F, Sergi M: Prescription of nCPAP and nBIPAP in obstructive sleep apnoea syndrome: Italian experience in 105 subjects. A prospective two centre study. *Respir Med* 1998; 92:820-827
224. Riley RW, Guilleminault C, Herran J, Powell N: Cephalometric analysis and flow-volume loops in obstructive sleep apnea. *Sleep* 1983; 6:303-311
225. Rivlin J, Hoffstein V, Kalbfleish J, McNicholas W, Zamel N, Bryan AC: Upper airway morphology in patients with idiopathic obstructive sleep apnea. *Am Rev Respir Dis* 1984; 129:355-360
226. Robinson RW, Zwillich CW, Bixler EO, Cadieux RJ, Kales A, White DP: Effects of oral narcotics on sleep-disordered breathing in healthy adults. *Chest* 1987; 91:197-203
227. Rosenberg-Adamsen S, Stausholm K, Edvardsen L, Zwarts M, Kehlet H, Rosenberg J: Body position and late postoperative nocturnal hypoxaemia. *Anaesthesia* 1997; 52:589-592
228. Rothschild MA, Catalano P, Biller HF: Ambulatory pediatric tonsillectomy and the identification of high-risk subgroups. *Otolaryngology Head Neck Surg* 1994; 110:203-210
229. Rowley JA, Aboussouan LS, Badr MS: The use of clinical prediction formulas in the evaluation of obstructive sleep apnea. *Sleep* 2000; 23:929-938
230. Ruboyanes JM, Cruz RM: Pediatric adenotonsillectomy for obstructive sleep apnea. *Ear Nose Throat J* 1996; 75:430-433
231. Russell AW, Owen H, Ilsley AH, Kluger MT, Plummer JL: Background infusion with patient-controlled analgesia: effect on postoperative oxyhaemoglobin saturation and pain control. *Anaesth Intensive Care* 1993, 21:174-179
232. Rybro L, Schurizek BA, Petersen TK, Wernberg M: Postoperative analgesia and lung function: A comparison of intramuscular with epidural morphine. *Acta Anaesth Scand* 1982, 26:514-518
233. Sajkov D, Cowie RJ, Thornton AT, Espinoza HA, McEvoy RD: Pulmonary hypertension in hypoxemia in obstructive sleep apnea syndrome. *Am J Respir Crit Care Med* 1994; 149:416-422
234. Sakakibara H, Tong M, Matsushita K, Girata M, Konishi Y, Suetsugu S: Cephalometric abnormalities in non-obese and obese patients with obstructive sleep apnea. *Eur Respir J* 1999; 13:403-410
235. Salomaki TE, Laitinen JO, Nuutinen LS: A randomized double-blind comparison of epidural versus intravenous fentanyl infusion for analgesia after thoracotomy. *Anesthesiology* 1991, 75:790-795
236. Samuels SI, Rabinov W: Difficulty reversing drug-induced coma in a patient with sleep apnea. *Anesth Analg* 1986; 65:1222-1224
237. Sanders MH, Moore SE, Eveslage J: CPAP via nasal mask: A treatment for occlusive sleep apnea. *Chest* 1985; 83:114-115
238. Sanders MH: Nasal CPAP effect on patterns of sleep apnea. *Chest* 1984; 86:839-844
239. Sandler AN, Stringer D, Panos L, Badner N, Friedlander M, Koren G, Katz J, Klein J: A randomized, double-blind comparison of lumbar epidural and intravenous fentanyl infusions for postthoracotomy pain relief: Analgesic, pharmacokinetic, and respiratory effects. *Anesthesiology* 1992, 77:626-634
240. Sanner BM, Doberauer C, Konermann M, Sturn A, Zidek W: Pulmonary hypertension in patients with obstructive sleep apnea syndrome. *Arch Intern Med* 1997; 157:2483-2487

241. Sanner BM, Tepel M, Markmann A, Zidek W: Effect of continuous positive airway pressure therapy on 24-hour blood pressure in patients with obstructive sleep apnea syndrome. *Am J Hypertens* 2002; 15:251-257
242. Schafer H, Ewig S, Hasper E, Luderitz B: Failure of CPAP therapy in obstructive sleep apnoea syndrome: predictive factors and treatment with bilevel-positive airway pressure. *Respir Med* 1998; 92:208-215
243. Schafer H, Pauleit D, Sudhop T, Gouni-Berthold I, Ewig S, Berthold HK: Body fat distribution, serum leptin, and cardiovascular risk factors in men with obstructive sleep apnea. *Chest* 2002; 122:829-839
244. Schellenberg JB, Maislin G, Schwab RJ: Physical findings and the risk for obstructive sleep apnea: The importance of oropharyngeal structures. *Am J Respir Crit Care Med* 2000; 16:740-748
245. Schmidt-Nowara WW, Meade TE, Hays MB: Treatment of snoring and obstructive sleep apnea with a dental orthosis. *Chest* 1991; 99:1378-1385
246. Schulz R, Schmidt D, Blum A, Lopes-Ribeiro X, Lucke C, Mayer K, Olschewski H, Seeger W, Grimminger F: Decreased plasma levels of nitric oxide derivatives in obstructive sleep apnoea: response to CPAP therapy. *Thorax* 2000; 55:1046-1051
247. Schwab RJ, Gupta KB, Geftter WB, Metzger LJ, Hoffman EA, Pack AI: Upper airway and soft tissue anatomy in normal subjects and patients with sleep-disordered breathing. Significance of the lateral pharyngeal walls. *Am J Respir Crit Care Med* 1995; 152:1673-1689
248. Schwartz AR, Gold AR, Schubert N, Stryzak RA, Wise S, Permutt S, Smith PL: Effect of weight loss on upper airway collapsibility in obstructive sleep apnea. *Am Rev Respir Dis* 1991; 144:494-498
249. Series F, Marc I: Efficacy of automatic continuous positive airway pressure therapy that uses an estimated required pressure in the treatment of the obstructive sleep apnea syndrome. *Ann Intern Med* 1997; 127:588-595
250. Sforza E, Bacon W, Weiss T, Thibault A, Petiau C, Krieger J: Upper airway collapsibility and cephalometric variables in patients with obstructive sleep apnea. *Am J Respir Crit Care Med* 2000; 161:347-352
251. Sharma S, Wali S, Pouliot Z, Peters M, Neufeld H, Kryger M: Treatment of obstructive sleep apnea with a self-titrating continuous positive airway pressure (CPAP) system. *Sleep* 1996; 19:497-501
252. Shulman M, Sandler AN, Bradley JW, Young PS, Brebner J: Postthoracotomy pain and pulmonary function following epidural and systemic morphine. *Anesthesiology* 1984; 61:569-575
253. Siyam MA, Benhamou D: Difficult endotracheal intubation in patients with sleep apnea syndrome. *Anesth Analg* 2002; 95:1098-1102
254. Smith DC, Crul JF: Early postoperative hypoxia during transport. *Br J Anaesth* 61:625-627, 1988
255. Squadrone V, Coxa M, Cerutti E, Schellino MM, Bioline P, Occella P, Bellone B, Vilianis G, Fiors G, Cavallo F, Ranieri VM: Continuous positive airway pressure for treatment of postoperative hypoxemia: a randomized clinical trial. *JAMA* 2005; 293:589-595
256. Steinberg B, Fraser B: The cranial base in obstructive sleep apnea. *J Oral Maxillofac Surg* 1995; 53:1150-1154
257. Stradling JR, Crosby JH: Predictors and prevalence of obstructive sleep apnea and snoring in 1001 middle aged men. *Thorax* 1991; 46:85-90

258. Strauss SG, Lynn AM, Bratton SL, Nespeca MK: Ventilatory response to CO₂ in children with obstructive sleep apnea from adenotonsillar hypertrophy. *Anesth Analg* 1999; 89:328-332
259. Suen JS, Arnold JE, Brooks LJ: Adenotonsillectomy for treatment of obstructive sleep apnea in children. *Arch Otolaryngol Head Neck Surg* 1995 May; 121:525-530
260. Sugerman HJ, Baron PL, Fairman RP, Evans CR, Vetrovec GW: Hemodynamic dysfunction in obesity hypoventilation syndrome and the effects of treatment with surgically induced weight loss. *Ann Surg* 1988; 207:604
261. Sullivan CE, Berthon-Jones M, Issa FG: Remission of severe obesity-hypoventilation syndrome after short-term treatment during sleep with nasal continuous positive airway pressure. *Am Rev Respir Dis* 1983; 128:177-181
262. Sullivan CE, Issa FG, Berthon-Jones M: Reversal of obstructive sleep apnea by continuous positive airway pressure applied through the nares. *Lancet* 1981; 1:862-865
263. Tami TA, Duncan HJ, Pflieger M: Identification of obstructive sleep apnea in patients who snore. *Laryngoscope* 1998; 108:508-513
264. Tan YK, L'Estrange PR, Luo YM, Smith C, Grant HR, Simonds AK, Spiro SG, Battagel JM: Mandibular advancement splints and continuous positive airway pressure in patients with obstructive sleep apnoea: a randomized cross-over trial. *Eur J Orthod* 2002; 24:239-249
265. Tangugsorn V, Krogstad O, Espeland L, Lyberg T: Obstructive sleep apnoea: multiple comparisons of cephalometric variables of obese and non-obese patients. *J Craniomaxillofac Surg* 2000; 28:204-212
266. Tangugsorn V, Skatvedt O, Krogstad O, Lyberg T: Obstructive sleep apnoea: a cephalometric study. Part I. Cervico-craniofacial morphology. *Eur J Orthod* 1995; 17:45-56
267. Tangugsorn V, Skatvedt O, Krogstad O, Lyberg T: Obstructive sleep apnoea: a cephalometric study. Part II. Uvulo-glossopharyngeal morphology. *Eur J Orthod* 1995; 17:57-67
268. Turner K, Sandler A, Vosu H, Daley D, Slavchenko P, Lau L: Respiratory pattern in post-caesarean patients after epidural or intramuscular morphine. *Anesth Analg* 1989, 68:S296
269. Ulnick KM, Debo RF: Postoperative treatment of the patient with obstructive sleep apnea. *Otolaryngol Head Neck Surg* 2000; 122:233-236
270. Unal M, Ozturk L, Kanik A: The role of oxygen saturation measurement and body mass index in distinguishing between non-apnoeic snorers and patients with obstructive sleep apnoea syndrome. *Clin Otolaryngol* 2002; 27:344-346
271. van Kralingen KW, de Kanter W, de Groot GH, Venmans BJ, van Boxem T, van Keimpema AR, Postmus PE: Assessment of sleep complaints and sleep-disordered breathing in a consecutive series of obese patients. *Respiration* 1999; 66:312-316
272. van Lersberghe C, Camu F, de Keersmaecker E, Sacre S: Continuous administration of fentanyl for postoperative pain: a comparison of the epidural, intravenous, and transdermal routes. *J Clin Anesth* 1994, 6:308-314
273. VanDercar DH, Martinez AP, De Lisser EA: Sleep apnea syndromes: a potential contraindication for patient-controlled analgesia. *Anesthesiology* 1991; 74:623-624
274. Vaughan RW, Wise L: Postoperative arterial blood gas measurements in obese patients: effect of position on gas exchange. *Ann Surg* 1976; 182:705-709
275. Vgontzas AN, Legro RS, Bixler EO, Grayev A, Kales A, Chrousos GP: Polycystic ovary syndrome is associated with obstructive sleep apnea and daytime sleepiness: role of insulin resistance. *J Clin Endocrinology Metabolism* 2001; 86:517-520

276. Vgontzas AN, Tan TL, Bixler EO, Martin LF, Shubert C, Kales A: Sleep apnea and sleep disruption in obese patients. *Arch Intern Med* 1994; 154:1705-1711
277. Viner S, Szalai JP, Hoffstein V: Are history and physical examination a good screening test for sleep apnea? *Ann Intern Med* 1991; 115:356-359
278. Voyagis G, Kyriakis K, Dimitriou V, Vrettou I: Value of oropharyngeal Mallampati classification in predicting difficult laryngoscopy among obese patients. *Eur J Anaesth* 1998; 15:330-334
279. Waters KA, Everett FM, Bruderer JW, Sullivan CE: Obstructive sleep apnea: the use of nasal CPAP in 80 children. *Am J Respir Crit Care Med* 1995; 152:780-785
280. Wehner RJ, Pierson DJ: The Pickwickian syndrome: a special challenge for the anesthetist. *AANA J* 1977; 45:57-61
281. Weldon BC, Connor M, White PF: Pediatric PCA: The role of concurrent opioid infusions and nurse-controlled analgesia. *Clin J Pain* 1993, 9:26-33
282. Wiest GH, Harsch IA, Fuchs FS, Kitzbichler S, Bogner K, Brueckl WM, Hahn EG, Ficker JH: Initiation of CPAP therapy for OSA: does prophylactic humidification during CPAP pressure titration improve initial patient acceptance and comfort? *Respiration* 2002; 69:406-412
283. Wilson K, Lakheeram I, Morielli A, Brouillette R, Brown K: Can assessment for obstructive sleep apnea help predict postadenotonsillectomy respiratory complications? *Anesthesiology* 2002; 96:313-322
284. Woodson BT, Naganuma H: Comparison of methods of airway evaluation in obstructive sleep apnea syndrome. *Otolaryngol Head Neck Surg* 1999; 120:460-463
285. Yildirim N, Fitzpatrick MF, Whyte KF, Jalleh R, Wightman AJA, Douglas NJ: The effect of posture on upper airway dimensions in normal subjects and in patients with the sleep apnea/hypopnea syndrome. *Am Rev Respir Dis* 1991; 144:845-847
286. Young T, Peppard P, Palta M, Hla KM, Finn L, Morgan B, Skatrud J: Population-based study of sleep-disordered breathing as a risk factor for hypertension. *Arch Intern Med* 1997; 157:1746-1752
287. Yu X, Fujimoto K, Urushibata K, Matsuzawa Y, Kubo K: Cephalometric analysis in obese and nonobese patients with obstructive sleep apnea syndrome. *Chest* 2003; 124:212-218
288. Zonato AI, Bittencourt LR, Martinho FL, Junior JF, Gregorio LC, Tufik S: Association of systematic head and neck physical examination with severity of obstructive sleep apnea-hypopnea syndrome. *Laryngoscope* 2003; 113:973-980
289. Zucconi M, Ferini SL, Palazzi S, Orena C, Zonta S, Smirne S: Habitual snoring with and without obstructive sleep apnoea; the importance of cephalometric variables. *Thorax* 1992; 47:157-161
290. Zucconi M, Ferini-Strambi L, Palazzi S, Curci C, Cucchi E, Smirne S: Craniofacial cephalometric evaluation in habitual snorers with and without obstructive sleep apnoea. *Otolaryngol Head Neck Surg* 1993; 109:1007-1013