

## **Sentra AM & PM Selected References**

1. Pettegrew JW1:59 PM, Levine J, McClure RJ. Acetyl-L-carnitine physical-chemical, metabolic, and therapeutic properties: relevance for its mode of action in Alzheimer's disease and geriatric depression. *Mol Psychiatry* 2000;5:616-632.
2. Bunney JN, Potkin SG. Circadian abnormalities, molecular clock genes and chronobiological treatments in depression. *Br Med Bull* 2008;86:23-32.
3. Cuninkova L, Brown SA. Peripheral circadian oscillators: interesting mechanisms and powerful tools. *Ann N Y Acad Sci* 2008;1129:358-370.
4. Gaillard JM. Neurochemical regulation of the states of alertness. *Ann Clin Res* 1985;17:175-184.
5. McGinty D, Szymusiak R. The sleep-wake switch: A neuronal alarm clock. *Nat Med* 2000;6:510-511.
6. Fuller PM, Gooley JJ, Saper CB. Neurobiology of the sleep-wake cycle: sleep architecture, circadian regulation, and regulatory feedback. *J Biol Rhythms* 2006;21:482-493.
7. Turek FW, Dugovic C, Zee PC. Current understanding of the circadian clock and the clinical implications for neurological disorders. *Arch Neurol* 2001;58:1781-1787.
8. Moore RY. Suprachiasmatic nucleus in sleep-wake regulation. *Sleep Med* 2007;8 Suppl 3:27-33.
9. Silver R, Lesauter J. Circadian and homeostatic factors in arousal. *Ann N Y Acad Sci* 2008;1129:263-274.
10. Benarroch EE. Suprachiasmatic nucleus and melatonin: reciprocal interactions and clinical correlations. *Neurology* 2008;71:594-598.
11. Zimmermann RC, McDougle CJ, Schumacher M et al. Effects of acute tryptophan depletion on nocturnal melatonin secretion in humans. *J Clin Endocrinol Metab* 1993;76:1160-1164.
12. Bellingham MC, Ireland MF. Contribution of cholinergic systems to state-dependent modulation of respiratory control. *Respir Physiol Neurobiol* 2002;131:135-144.
13. Szymusiak R, McGinty D. Hypothalamic regulation of sleep and arousal. *Ann N Y Acad Sci* 2008;1129:275-286.

14. Seifritz E. Contribution of sleep physiology to depressive pathophysiology. *Neuropsychopharmacology* 2001;25:S85-S88.
15. Carlsson A. Interaction between dopaminergic and serotonergic systems. *Clin Neuropharmacol* 1992;15 Suppl 1 Pt A:616A-617A.
16. Gillin JC, Salin-Pascual R, Velazquez-Moctezuma J, Shiromani P, Zoltoski R. Cholinergic receptor subtypes and REM sleep in animals and normal controls. *Prog Brain Res* 1993;98:379-387.
17. Guha M, Biswas S, Poddar MK. Possible involvement of central cholinergic-serotonergic interaction in natural sleep. *Methods Find Exp Clin Pharmacol* 1988;10:243-245.
18. Huwig-Poppe C, Voderholzer U, Backhaus J, Riemann D, Konig A, Hohagen F. The tryptophan depletion test. Impact on sleep in healthy subjects and patients with obsessive-compulsive disorder. *Adv Exp Med Biol* 1999;467:35-42.
19. Fernstrom JD. Effects of the diet and other metabolic phenomena on brain tryptophan uptake and serotonin synthesis. *Adv Exp Med Biol* 1991;294:369-376.
20. Jouvet M. Sleep and serotonin: an unfinished story. *Neuropsychopharmacology* 1999;21:24S-27S.
21. Nitz D, Siegel J. GABA release in the dorsal raphe nucleus: role in the control of REM sleep. *Am J Physiol* 1997;273:R451-R455.
22. Marks GA, Roffwarg HP. The cholinergic influence upon rat dorsal lateral geniculate nucleus is dependent on state of arousal. *Brain Res* 1989;494:294-306.
23. Boivin DB. Influence of sleep-wake and circadian rhythm disturbances in psychiatric disorders. *J Psychiatry Neurosci* 2000;25:446-458.
24. Turner EH, Loftis JM, Blackwell AD. Serotonin a la carte: supplementation with the serotonin precursor 5-hydroxytryptophan. *Pharmacol Ther* 2006;109:325-338.
25. Wurtman RJ. Dietary treatments that affect brain neurotransmitters. Effects on calorie and nutrient intake. *Ann N Y Acad Sci* 1987;499:179-90.
26. Wurtman RJ, Hefti F, Melamed E. Precursor control of neurotransmitter synthesis. *Pharmacol Rev* 1980;32:315-335.
27. Fernstrom JD. Effects of precursors on brain neurotransmitter synthesis and brain functions. *Diabetologia* 1981;20 Suppl:281-289.
28. Fernstrom JD, Fernstrom MH. Tyrosine, phenylalanine, and catecholamine synthesis and function in the brain. *J Nutr* 2007;137:1539S-1547S.
29. Szymusiak R, McGinty D, Fairchild MD, Jenden DJ. Sleep-wake disturbances in an animal model of chronic cholinergic insufficiency. *Brain Res* 1993;629:141-145.
30. Meyers S. Use of neurotransmitter precursors for treatment of depression. *Altern Med Rev* 2000;5:64-71.
31. Mendelson WB. Neurotransmitters and sleep. *J Clin Psychiatry* 2001;62 Suppl 10:5-8.

32. Szymusiak R. Magnocellular nuclei of the basal forebrain: substrates of sleep and arousal regulation. *Sleep* 1995;18:478-500.
33. McCormick DA. Neurotransmitter actions in the thalamus and cerebral cortex. *J Clin Neurophysiol* 1992;9:212-223.
34. Cape EG, Jones BE. Effects of glutamate agonist versus procaine microinjections into the basal forebrain cholinergic cell area upon gamma and theta EEG activity and sleep-wake state. *Eur J Neurosci* 2000;12:2166-2184.
35. Gallopin T, Fort P, Eggemann E et al. Identification of sleep-promoting neurons in vitro. *Nature* 2000;404:992-995.
36. Gvilia I, Xu F, McGinty D, Szymusiak R. Homeostatic regulation of sleep: a role for preoptic area neurons. *J Neurosci* 2006;26:9426-9433.
37. Horner RL. Is there a rationale in modulating brainstem neurons in obstructive sleep apnea and is it clinically relevant? *Sleep* 2000;23 Suppl 4:S179-S181.
38. Johnston GA. Medicinal chemistry and molecular pharmacology of GABA(C) receptors. *Curr Top Med Chem* 2002;2:903-913.
39. Markov D, Goldman M. Normal sleep and circadian rhythms: neurobiologic mechanisms underlying sleep and wakefulness. *Psychiatr Clin North Am* 2006;29:841-853.
40. Choi SJ, Patil V, Fernstrom JD. 5,7-Dihydroxytryptamine: regional brain concentrations following intraventricular administration to rats. *Neurochem Res* 2001;26:1145-1149.
41. Espana RA, Scammell TE. Sleep neurobiology for the clinician. *Sleep* 2004;27:811-820.
42. Muzur A, Pace-Schott EF, Hobson JA. The prefrontal cortex in sleep. *Trends Cogn Sci* 2002;6:475-481.
43. Vazquez J, Baghdoyan HA. Basal forebrain acetylcholine release during REM sleep is significantly greater than during waking. *Am J Physiol Regul Integr Comp Physiol* 2001;280:R598-R601.
44. Cudeiro J, Rivadulla C, Grieve KL. A possible role for nitric oxide at the sleep/wake interface. *Sleep* 2000;23:829-835.
45. Hasselmo ME, Fehlau BP. Differences in time course of ACh and GABA modulation of excitatory synaptic potentials in slices of rat hippocampus. *J Neurophysiol* 2001;86:1792-1802.
46. Thomas RJ. Excitatory amino acids in health and disease. *J Am Geriatr Soc* 1995 November;43(11):1279-89.
47. Tamakawa Y, Karashima A, Koyama Y, Katayama N, Nakao M. A quartet neural system model orchestrating sleep and wakefulness mechanisms. *J Neurophysiol* 2006;95:2055-2069.
48. Cape EG, Jones BE. Differential modulation of high-frequency gamma-electroencephalogram activity and sleep-wake state by noradrenaline and serotonin microinjections into the region of cholinergic basal ganglia neurons. *J Neurosci* 1998;18:2653-2666.

49. Mallick BN, Kaur S, Saxena RN. Interactions between cholinergic and GABAergic neurotransmitters in and around the locus coeruleus for the induction and maintenance of rapid eye movement sleep in rats. *Neuroscience* 2001;104:467-485.
50. Landolt HP, Kelsoe JR, Rapaport MH, Gillin JC. Rapid tryptophan depletion reverses phenelzine-induced suppression of REM sleep. *J Sleep Res* 2003;12:13-18.
51. Yogman MW, Zeisel SH. Diet and sleep patterns in newborn infants. *N Engl J Med* 1983;309:1147-1149.
52. Leonard BE. Serotonin receptors and their function in sleep, anxiety disorders and depression. *Psychother Psychosom* 1996;65:66-75.
53. Lydic R, McCarley RW, Hobson JA. Serotonin neurons and sleep. I. Long term recordings of dorsal raphe discharge frequency and PGO waves. *Arch Ital Biol* 1987;125:317-343.
54. Joseph V, Pequignot JM, Van RO. Neurochemical perspectives on the control of breathing during sleep. *Respir Physiol Neurobiol* 2002;130:253-263
55. Brown DW. Abnormal fluctuations of acetylcholine and serotonin. *Med Hypotheses* 1993;40:309-310.
56. Acetyl-L-carnitine. *Altern Med Rev* 1999;4:438-441.
57. Jacobson KA, Moro S, Manthey JA, West PL, Ji XD. Interactions of flavones and other phytochemicals with adenosine receptors. *Adv Exp Med Biol* 2002;505:163-71.
58. Sawynok J. Adenosine receptor activation and nociception. *Eur J Pharmacol* 1998 April 17;347(1):1-11.
59. Ribeiro JA, Sebastiao AM, de Mendonca A. Adenosine receptors in the nervous system: pathophysiological implications. *Prog Neurobiol* 2002 December;68(6):377-92.
60. Luceri C, Caderni G, Sanna A, Dolara P. Red wine and black tea polyphenols modulate the expression of cyclooxygenase-2, inducible nitric oxide synthase and glutathione-related enzymes in azoxymethane-induced f344 rat colon tumors. *J Nutr* 2002 June;132(6):1376-9.
61. Sovak M. Grape Extract, resveratrol, and its analogs: A Review. *J Med Food* 2001;4(2):93-105
62. Scalbert A, Williamson G. Dietary intake and bioavailability of polyphenols. *J Nutr* 2000 August;130(8S Suppl):2073S-85S.
63. Chang Q, Zuo Z, Harrison F, Chow MS. Hawthorn. *J Clin Pharmacol* 2002;42:605-612.
64. Anderson GH, Johnston JL. Nutrient control of brain neurotransmitter synthesis and function. *Can J Physiol Pharmacol* 1983;61:271-281.
65. Fernstrom JD. Can nutrient supplements modify brain function? *Am J Clin Nutr* 2000;71:1669S-1675S.
66. Fernstrom JD. Dietary amino acids and brain function. *J Am Diet Assoc* 1994;94:71-77.

67. Fernstrom JD, Fernstrom MH. Monoamines and protein intake: are control mechanisms designed to monitor a threshold intake or a set point? *Nutr Rev* 2001;59:S60-S65.
68. Anderson IM, Mortimore C. 5-HT and human anxiety. Evidence from studies using acute tryptophan depletion. *Adv Exp Med Biol* 1999;467:43-55.
69. Arnulf I, Quintin P, Alvarez JC et al. Mid-morning tryptophan depletion delays REM sleep onset in healthy subjects. *Neuropsychopharmacology* 2002;27:843-851.
70. Conlay LA, Zeisel SH. Neurotransmitter precursors and brain function. *Neurosurgery* 1982;10:524-529.
71. Danneberg P, Weber KH. Chemical structure and biological activity of the diazepines. *Br J Clin Pharmacol* 1983;16 Suppl 2:231S-244S.
72. Musa MN. Sleep apnea following withdrawal of amitriptyline. *J Clin Pharmacol* 1988;28:1038-1039.
73. Nutt DJ, Malizia AL. New insights into the role of the GABA(A)-benzodiazepine receptor in psychiatric disorder. *Br J Psychiatry* 2001;179:390-396.
74. Stahmer SD. Pharmacodynamics of benzodiazepines. *S Afr Med J* 1985;Suppl:14-22.
75. Wurtman RJ. Nutrients affecting brain composition and behavior. *Integr Psychiatry* 1987;5:226-238.
76. *Modern Nutrition in Health and Disease*. 10th ed. Philadelphia: Lipincott Williams & Wilkin, 2006.
77. Fernstrom JD. Dietary precursors and brain neurotransmitter formation. *Annu Rev Med* 1981;32:413-425.
78. Wurtman RJ. When--and why--should nutritional state control neurotransmitter synthesis? *J Neural Transm Suppl* 1979;69-79.
79. Lehnert H, Wurtman RJ. Amino acid control of neurotransmitter synthesis and release: physiological and clinical implications. *Psychother Psychosom* 1993;60:18-32.
80. Zeisel SH. Dietary influences on neurotransmission. *Adv Pediatr* 1986;33:23-47.
81. Young SN, Teff KL. Tryptophan availability, 5HT synthesis and 5HT function. *Prog Neuropsychopharmacol Biol Psychiatry* 1989;13:373-379.
82. Young SN. Behavioral effects of dietary neurotransmitter precursors: basic and clinical aspects. *Neurosci Biobehav Rev* 1996;20:313-323.
83. Young SN, Gauthier S. Effect of tryptophan administration on tryptophan, 5-hydroxyindoleacetic acid and indoleacetic acid in human lumbar and cisternal cerebrospinal fluid. *J Neurol Neurosurg Psychiatry* 1981;44:323-328.
84. Young SN, Gauthier S. Tryptophan availability and the control of 5-hydroxytryptamine and tryptamine synthesis in human CNS. *Adv Exp Med Biol* 1981;133:221-230.

85. Ulus IH, Wurtman RJ. Choline increases acetylcholine release. *Lancet* 1987;1:624.
  86. Leathwood PD. Tryptophan availability and serotonin synthesis. *Proc Nutr Soc* 1987;46:143-156.
  87. Fernstrom JD, Wurtman RJ. Control of brain serotonin levels by the diet. *Adv Biochem Psychopharmacol* 1974;11:133-142.
  88. Wurtman RJ. Effects of their nutrient precursors on the synthesis and release of serotonin, the catecholamines, and acetylcholine: implications for behavioral disorders. *Clin Neuropharmacol* 1988;11 Suppl 1:S187-S193.
  89. Riemann D, Feige B, Hornyak M, Koch S, Hohagen F, Voderholzer U. The tryptophan depletion test: impact on sleep in primary insomnia - a pilot study. *Psychiatry Res* 2002;109:129-135.
  90. Delgado PL, Charney DS, Price LH, Landis H, Heninger GR. Neuroendocrine and behavioral effects of dietary tryptophan restriction in healthy subjects. *Life Sci* 1989;45(24):2323-32
  91. Bender DA. Biochemistry of tryptophan in health and disease. *Mol Aspects Med* 1983;6:101-197.
  92. Wurtman RJ. Food consumption, neurotransmitter synthesis, and human behaviour. *Experientia Suppl* 1983;44:356-369.
  93. Blusztajn JK, Liscovitch M, Mauron C, Richardson UI, Wurtman RJ. Phosphatidylcholine as a precursor of choline for acetylcholine synthesis. *J Neural Transm Suppl* 1987;24:247-259.
  94. Zanardi R, Smeraldi E. A double-blind, randomised, controlled clinical trial of acetyl-L-carnitine vs. amisulpride in the treatment of dysthymia. *Eur Neuropsychopharmacol* 2006;16:281-287.
  95. Vermeulen RC, Scholte HR. Exploratory open label, randomized study of acetyl- and propionylcarnitine in chronic fatigue syndrome. *Psychosom Med* 2004;66:276-282.
  96. Malaguarnera M, Gargante MP, Cristaldi E et al. Acetyl L-carnitine (ALC) treatment in elderly patients with fatigue. *Arch Gerontol Geriatr* 2008;46:181-190.
  97. Tomassini V, Pozzilli C, Onesti E et al. Comparison of the effects of acetyl L-carnitine and amantadine for the treatment of fatigue in multiple sclerosis: results of a pilot, randomised, double-blind, crossover trial. *J Neurol Sci* 2004;218:103-108.
  98. Veasey SC. Pharmacotherapies for obstructive sleep apnea: how close are we? *Curr Opin Pulm Med* 2001;7:399-403.
  99. Lucki I. The spectrum of behaviors influenced by serotonin. *Biol Psychiatry* 1998;44:151-162.
- Jindal RD, Friedman ES, Berman SR, Fasiczka AL, Howland RH, Thase ME. Effects of sertraline on sleep architecture in patients with depression. *J Clin Psychopharmacol* 2003;23:540-548.