(TST/8hrs) was determined to be the primary efficacy criterion. Statistical procedures for the intent-to-treat population analysis included ANCOVA to control for the participating sleep centers. After 14 days of treatment, low dose mirtazapine showed a statistically significant increase of about 7% in sleep efficiency (change from baseline) as compared to placebo (p=0.013) and temazepam (p=0.02).
Conclusions: During a period of 14 days, the hypnotic efficacy of low dose mirtazapine given before bedtime is superior over placebo in primary insomniacs. Both mirtazapine and temazepam were well tolerated in this study.

0201.C

Modafinil Attenuates the Decline in Frontal Lobe Function During Simulated Night Shift

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Introduction: Reduced alertness during night shift and the associated risk of errors and impaired performance remains an intractable problem for many industries and occupations. Therefore, we studied the effects of the alerting drug modafinil (MOD) on executive function during usual night shift hours in a simulated shift work protocol.
Methods: 32 subjects (15 male, 17 female; mean age 31.5; range 18-55) participated in a parallel groups, double-blind, repeated measures design. Written informed consent was obtained. All subjects were free of medical and psychiatric disorders, kept a regular sleep schedule, habitually consumed < 10 alcoholic drinks/week and < 400mg caffeine/day, and did not take CNS active medications. A standard PSG adapted subjects to laboratory procedures and excluded those with sleep disorders. A daytime MSLT excluded individuals with a mean latency of < 5 minutes. Prior to randomization, subjects were trained on performance tests and maintained a regular sleep wake schedule. Either MOD 200mg or placebo (PBO) was given at 2200 hours each night during a 4-night/4-day simulated night shift schedule. From 2300 until approximately 0700 each night, subjects engaged in a variety of performance tests, alertness measures and a cognitive testing battery. This report includes results for the cognitive testing battery. Tests included were the Wisconsin Card Sorting Test (WCST), Torrance Tests of Creative Thinking-Verbal (TTCT-V) and Figural (TTCT-F), Category Test (CT), Optimal Telegram (OT), Anagrams, Thurstone Word Fluency (TWF), Sentence Completion (SC), and Letter Number Sequencing (LNS). MANOVAs on the difference scores between baseline and treatment were used to analyze TTCT-V and TTCT-F variables. MANOVAs were conducted on the WCST, OT, CT variables. T-tests were conducted on all other variables.
Results: Though performance on TTCT-V and TTCT-F was worse for both groups during the night shift compared to baseline, the MOD group performed less poorly during treatment than the PBO group on the TTCT-V. A main effect for group (p = .015) was significant as were univariate F tests for subscales of verbal flexibility and originality. The mean decline in flexibility standard scores were -2.62 and -16.38 for MOD and PBO, respectively, and for originality were -1.44 and -9.93 for MOD and PBO, respectively. On the WCST, fewer overall errors were made in MOD (106.1 standard score; p=.005) than PBO (90.9), as well as fewer errors of perseveration (MOD= 110.9, PBO = 93.5; p=.007). MOD made fewer perseverative responses (4.5; p=.043) on SC than PBO (7.5). No group differences were found for TTCT-F, OT, CT, TWF, or LNS.
Conclusions: These data suggest that modafinil 200mg reduces the decline in some executive functions during the night shift.

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0202.C

Sedative Effects of Codeine

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Introduction: Sedation is a frequently reported side effect of opiates. Studies of opiate effects have been done using subjective assessments and performance tests with inconclusive results. Further, many of the studies have not included a positive control whereby the extent of the sedative effects can be evaluated. Using the Multiple Sleep Latency Test (MSLT) studies have shown the sedative and performance disruptive effects of a reduced (2-6 hrs) bedtime the previous night. Thus, the present study, using the MSLT, assessed the sedative effects of low dose codeine in comparison to the effects of four and zero hours time in bed (TIB).
Methods: Six healthy, normal adults, 21-35 yrs old, participated. All were in good medical and psychiatric health with no history of alcoholism or drug abuse. All had sleep efficiencies >85% on a screening 8 hr NPSG with no evidence of primary sleep disorders and an average sleep latency of >8 min on a standard MSLT conducted on the following day. Each underwent four conditions presented in a Latin Square design: 8 hrs TIB + placebo, 8 hrs TIB + codeine 60 mg bid, 4 hrs TIB + placebo, and 0 hrs TIB + placebo. In the 8 hrs TIB conditions bedtime was set to 2300-0700 hrs, in the 4 hrs TIB 0300-0700 hrs, and in the 0 hrs TIB no sleep was allowed. The following day after arising at 0700 hrs and a breakfast (0800-0830 hrs) each participant received codeine 60 mg or placebo at 0900 and 1300 hrs. A standard MSLT was conducted at 1000, 1200, 1400, and 1600 hrs. Pain threshold for a radiant heat stimiulus was assessed at 1030 and 1430 hrs.
Results: Pain threshold on the am and pm testing was increased significantly by codeine 60 mg (bid) ($F_{1,5} = 7.28$, $p<.04$). The average daily sleep latency in the 8 hrs TIB + placebo condition was 12.4 ($\pm$ 3.3) min which was reduced to 6.8 ($\pm$ 2.1) in the 8 hrs TIB + codeine, 4.6 ($\pm$ 1.4) in the 4 hrs TIB + placebo, and 3.4 ($\pm$ 2.8) in the 0 hrs TIB + placebo conditions. The four conditions differed significantly ($F_{3,12} = 12.8$, $p<.001$) with each differing from the 8 hrs TIB + placebo condition in post hoc contrasts ($p<.01$).
Conclusions: The results of this study indicate that codeine 60 mg bid has a mildly sedative effect. It reduces average daily sleep latency on the MSLT from that found after 8 hrs of sleep the previous night, but not to that level found after 4 hrs of sleep. While 60 mg (bid) codeine produces mild sleepiness, higher doses and the interaction of codeine with disease related sleep loss and fragmentation needs further clarification.

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0203.C

Modafinil Treatment In Patients With Opiate-Induced Sedation

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Introduction: Opioids are among the most effective analgesics for the treatment of chronic pain. However, the use of opioids is often limited by side effects, particularly sedation, which may impair physical and cognitive functioning. The novel wake-promoting agent modafinil, which acts selectively through the sleep/wake centers of the brain, has been shown to improve cognitive functioning in several models of excessive sleepiness. This study was conducted to assess the effect of modafinil treatment in patients who experience sedation associated with opiate treatment for chronic pain.
Methods: This single-center, double-blind, placebo-controlled, random-

This 2003 Annual Meeting abstract supplement contains all of the abstracts to be presented at the APSS 17th Annual Meeting on June 3-8 in Chicago, Illinois. This year we experienced the largest increase in submitted abstracts that has ever occurred, with 1148 submissions. This represents a 51% increase over that submitted in 2002. This likely reflects the combined meeting with the World Federation of Sleep Research Societies, the 50th anniversary of the discovery of REM sleep being celebrated at the meeting, and the sustained increase in science addressing sleep and its disorders. Thus, more science will be presented in Chicago this year than has been presented at any previous meeting addressing this topic.

Of the 1148 abstracts, 169 will be presented in oral format, 51 in poster symposiums, and the remainder as posters. With this number of abstracts being presented as posters, the Program Committee had to make some hard decisions as to how best to handle this. They elected to:

1) Thematically group the posters.
2) Posters will be up for only one day during the meeting, but will be up the entire day.
3) Most importantly, there will be a 90 minute block of time each day (Thursday, Friday, and Saturday, June 5,6, and 7) between 1:30pm and 3:15pm that poster viewing will be unopposed by any other scientific presentation.

Each poster will have a unique 4 digit number within the appropriate category (listed below) which should allow for easy identification.

The categories for this year's science have not changed from last year and are listed here:

A. Basic Neuroscience
B. General Physiology
C. Clinical Pharmacology
D. Dreams
E. Circadian Rhythms
F. Phylogeny
G. Pediatrics
H. Aging
I. Sleep Deprivation
J. Sleep Disorders - Breathing
K. Sleep Disorders - Narcolepsy
L. Sleep Disorders - Insomnia
M. Sleep Disorders - Parasomnias
N. Sleep Disorders - Movement Disorders
O. Sleep Disorders - Neurologic Disorders
P. Sleep in Medical Disorders
Q. Sleep in Psychiatric Disorders
R. Instrumentation & Methodology
S. Sleep Education
T. Molecular Biology & Genetics
U. Sleep & Behavior

Despite the troubled times in America and abroad, we expect this will be the largest APSS meeting to date. It is our hope that this year's Annual Meeting will provide the opportunity for the meaningful exchange of both clinical and basic science related to sleep and its disorders.

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