

HOSPITAL PHYSICIAN®

PSYCHIATRY BOARD REVIEW MANUAL

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The *Hospital Physician Psychiatry Board Review Manual* is a study guide for residents and practicing physicians preparing for board examinations in psychiatry. Each manual reviews a topic essential to the current practice of psychiatry.

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Primary Sleep Disorders: The Dyssomnias

Editor:

Jerald Kay, MD

Professor and Chair, Department of Psychiatry, Wright State University School of Medicine, Dayton, OH

Contributor:

Michael Ignatowski, DO

Psychiatry Resident, Department of Psychiatry, Wright State University School of Medicine, Dayton, OH

Table of Contents

Introduction	2
General Approach to the Patient with Dyssomnia	2
Primary Insomnia	2
Primary Hypersomnia	5
Narcolepsy	5
Breathing-Related Sleep Disorders	7
Circadian Rhythm Disorder	7
Dyssomnia Not Otherwise Specified	8
Conclusion	9
References	10

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Primary Sleep Disorders: The Dyssomnias

Michael Ignatowski, DO

INTRODUCTION

A dyssomnia is a primary disorder of sleep or wakefulness characterized by inability to sleep (ie, insomnia) or excessive sleepiness (ie, hypersomnia). Dyssomnias are disorders of duration, quality, and timing of sleep. The prevalence of sleep-related problems in the general population is estimated to be around 30%, affecting between 50 and 70 million Americans of all ages.¹ The incidence and prevalence of sleep disorders are even higher in the psychiatric population. Ford and Kamrrow² revealed that 40% of patients with insomnia and 46.5% of patients with hypersomnia had a psychiatric disorder compared with only 16.4% of patients with no sleep complaints.

Normal sleep is divided between rapid eye movement (REM) and non-REM cycles. Non-REM sleep is separated into 4 stages based on increasing depth of sleep, which can be observed through polysomnography (PSG). Sleep latency (ie, the time spent trying to fall asleep) is normally 10 to 20 minutes. In stage 1 sleep, the occipital dominant rhythm decreases, and the 8 to 13 Hz alpha waves seen in the awake state diminish. Alpha waves are replaced by 3 to 7 Hz theta waves, and larger vertex transients can be seen. In stage 2, bursts of 12 to 15 Hz waves known as sleep spindles occur, along with high voltage waves of positive and negative polarity known as K complexes. In stage 3, slow wave activity of 1 to 3 Hz known as delta waves are observed, which comprise 20% to 49% of the stage 3 sleep period. Stage 4 consists of over 50% delta waves. Stages 3 and 4 of non-REM sleep are more prominent in the first half of normal sleep (Figure 1).³

REM accounts for 20% to 25% of sleep and is associated with vivid dreaming. All muscles except for ocular and respiratory muscles are paralyzed during REM to prevent acting out dreams. REM normally starts around 60 to 90 minutes after sleep onset and is most prominent in the latter half of sleep. REM and non-REM usually occur in 90- to 110-minute cycles.⁴ Age-related degenerative changes occur in the sleep cycles that lead to a reduction of sleep efficiency (Table 1); however, the overall need for sleep does not decrease with age.⁵

GENERAL APPROACH TO THE PATIENT WITH DYSSOMNIA

Evaluation of the dyssomnias should include an in-depth sleep history (ie, onset, frequency, duration, and severity of sleep complaints), mental status examination, and physical examination. Initial interviews should include a review of illicit and prescription drugs as well as alcohol and caffeine use. These interviews are often aided by spouses, bed partners, or parents of children with sleep disorders. A mental status examination is necessary to rule out an insomnia or hypersomnia secondary to mental illness. A physical examination should be performed to rule out general medical causes of dyssomnia, such as neurologic, cardiac, respiratory, rheumatologic, or endocrine disorders. Laboratory tests may be useful in cases where illnesses such as hyperthyroidism or pheochromocytoma are suspected. Instruments such as the Epworth Sleepiness Scale or the Sleep Disorders Questionnaire are used to differentiate the dyssomnias. PSG may be used if a patient has symptoms suggestive of sleep apnea, periodic limb movement, narcolepsy, or violent behavior in sleep (Table 2).

PRIMARY INSOMNIA

DIAGNOSTIC AND ASSOCIATED FEATURES

Insomnia is the complaint of poor sleep quality with daytime functional impairment or distress for at least 1 month (Table 3).⁶ The prevalence of insomnia is believed to be approximately 10% in the general population.¹ To meet criteria for sleep-onset insomnia, a patient must have a sleep latency of greater than 30 minutes. Patients with sleep maintenance insomnia have difficulty staying asleep, with frequent and extended awakenings totaling 30 minutes or premature awakenings with less than 6.5 hours of total sleep.⁷ A patient with a psychophysiologic primary insomnia often has anxiety about getting sleep when attempting to fall asleep, thus preventing him or her from doing so.