CHEST™

International Classification of Sleep Disorders-Third Edition

Highlights and Modifications

Michael J. Sateia, MD

The recently released third edition of the *International Classification of Sleep Disorders* (ICSD) is a fully revised version of the American Academy of Sleep Medicine's manual of sleep disorders nosology, published in cooperation with international sleep societies. It is the key reference work for the diagnosis of sleep disorders. The ICSD-3 is built on the same basic outline as the ICSD-2, identifying seven major categories that include insomnia disorders, sleep-related breathing disorders, central disorders of hypersomnolence, circadian rhythm sleep-wake disorders, sleep-related movement disorders, parasomnias, and other sleep disorders. Significant modifications have been made to the nosology of insomnia, narcolepsy, and parasomnias. Major features and changes of the manual are reviewed in this article. The rationales for these changes are also discussed. CHEST 2014; 146(5):1387-1394

ABBREVIATIONS: AASM = American Academy of Sleep Medicine; CRSWD = circadian rhythm sleep-wake disorder; CSA = central sleep apnea; CSB = Cheyne-Stokes breathing; ICD = *International Classification of Diseases*; ICSD = *International Classification of Sleep Disorders*; IH = idiopathic hypersomnia; MSLT = multiple sleep latency test; NREM = non-rapid eye movement; OCST = out-of-center sleep testing; PAP = positive airway pressure; PLM = periodic limb movement; PLMD = periodic limb movement disorder; PSG = polysomnogram; RBD = rapid eye movement sleep behavior disorder; REM = rapid eye movement; RLS = restless legs syndrome; SOREMP = sleep-onset rapid eye movement period

The recent publication of the third edition of the *International Classification of Sleep Disorders* (ICSD)[1] represents another step forward in the evolution of sleep disorders nosology. ICSD-3 builds on the basic foundation of ICSD-2, retaining the same major diagnostic sections of that manual (Table 1). The preparation of the classification system included extensive literature reviews for each diagnosis, as well as for major associated features. The text was fully revised, and additional text headings (eg, Developmental Features) and coding recommendations were added.

Several key considerations apply to all diagnoses within ICSD-3. Although the criteria for each diagnosis have been reviewed and revised carefully to be as sensitive and specific to the disorder as possible, the reality is that there is much still unknown about the classification of these disorders. This is particularly true with respect to the degree of disturbance required to achieve clinical significance and the most effective metrics for determining this. As a result of these shortcomings, physicians

Manuscript received April 21, 2014; revision accepted June 16, 2014.

AFFILIATIONS: From Geisel School of Medicine at Dartmouth, Lebanon, NH.

CORRESPONDENCE TO: Michael J. Sateia, MD, Geisel School of Medicine at Dartmouth, One Medical Center Dr, Lebanon, NH 03756; e-mail: michael.j.sateia@dartmouth.edu

DOI: 10.1378/chest.14-0970

TABLE 1] ICSD-3 Major Diagnostic Sections

Section
Insomnia
Sleep-related breathing disorders
Central disorders of hypersomnolence
Circadian rhythm sleep-wake disorders
Parasomnias
Sleep-related movement disorders
Other sleep disorders

ICSD = *International Classification of Sleep Disorders*.

must allow some room for judgment in the application of these criteria. In general, unless otherwise specified, all criteria must be met to establish a diagnosis. However, there are undoubtedly individuals with clinically significant sleep disorders who do not meet all the criteria for a given diagnosis. In such cases, provisional diagnoses with careful follow-up and retesting may be in order. Application of the criteria should be guided by the notes that follow many of the criteria sections.

As with ICSD-2, pediatric diagnoses are not distinguished from adult diagnoses, with the exception of pediatric OSA. ICSD-3 consistently refers to the *AASM [American Academy of Sleep Medicine] Manual for the Scoring of Sleep and Associated Events*[2] for definitions of specific polysomnogram (PSG) findings (eg, respiratory events or movement abnormalities). This will allow up-to-date accuracy of definitions as scoring rules evolve prior to the next ICSD publication.

Finally, the ICSD-3 provides specific coding information for each diagnosis. The *International Classification of Diseases* (ICD)[3] coding system for the United States (clinical modification version) is in transition from the ninth to the 10th edition at the time of this writing. Therefore, both *International Classification of Diseases*, *Ninth Revision*, *Clinical Modification* and *International Classification of Diseases*, *Tenth Revision*, *Clinical Modification* codes are included. Because ICD system changes inevitably lag behind changes to the ICSD, users will note certain discrepancies between the systems in the coding approach for various diagnoses. The ICD codes listed in ICSD-3 represent the best approximations within the confines of the system.

Insomnia

The classification of insomnia disorders in ICSD-3 represents a marked departure from that of prior systems. Historically, insomnia disorders have been dichotomized in several ways that relate to duration and presumed pathophysiology. The distinction of acute and chronic insomnia has existed in most diagnostic systems since the inception of sleep-wake disorders nosology. The ICD system has, at least through its 10th edition, clung to the now-archaic distinction of "organic" vs "nonorganic" insomnia (ie, psychogenic). ICSD-1, ICSD-2, and the *Diagnostic and Statistical Manual of Mental Disorders*[4] (through the fourth edition) have used the familiar primary vs secondary (or comorbid) insomnia distinction. ICSD-1 and ICSD-2 further subtyped primary insomnia into psychophysiologic, idiopathic, and paradoxical (sleep-state misperception) insomnia disorders. However, these approaches to classification, especially the primary vs secondary (comorbid) distinction, have been challenged.

The 2005 National Institutes of Health Consensus Panel on Manifestations and Management of Chronic Insomnia in Adults[5] noted that considerable uncertainty exists with respect to the "nature of (the) associations and the direction of causality" in cases of comorbid insomnia. Furthermore, the panel noted that an emphasis on the "secondary" nature of many insomnia disorders may promote inadequate treatment (presumably as a result of an assumption on the part of physicians that treatment of the "primary" condition is sufficient to resolve the insomnia condition). Beyond these considerations, other concerns have been registered. It has been clear for some time that the vast majority of chronic insomnia conditions (if not all) share numerous characteristics, regardless of their "primary" vs "comorbid" status. Specifically, chronic insomnia disorders as a whole are typically associated with maladaptive cognitions and behaviors that represent major perpetuating factors. These factors must be addressed therapeutically to achieve a successful long-term outcome. Beyond the clearly important management of comorbid disorders such as major depression or chronic pain, treatment approaches to chronic insomnia are essentially the same (ie, cognitive-behavioral and/or pharmacologic), regardless of the presence or type of comorbidity. Finally, the diagnostic reliability and validity of insomnia diagnoses, especially primary insomnia, have been challenged on the basis of several studies.[6,7]

In light of the concerns raised by these issues, the ICSD-3 task force elected to consolidate all insomnia diagnoses (ie, "primary" and "comorbid") under a single, chronic insomnia disorder. This decision is not intended to suggest that there may not be important