Insomnia: missing links...

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Additional Professor
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Rishikesh

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Outline…

- Issues:
  - Is it so common?
  - Change in understanding…
  - How to diagnose?
  - How to manage?
  - What if we don’t manage?
- Missing links:
  - Mimics of insomnia

Why are we talking about it?

20%

14%

30-70%

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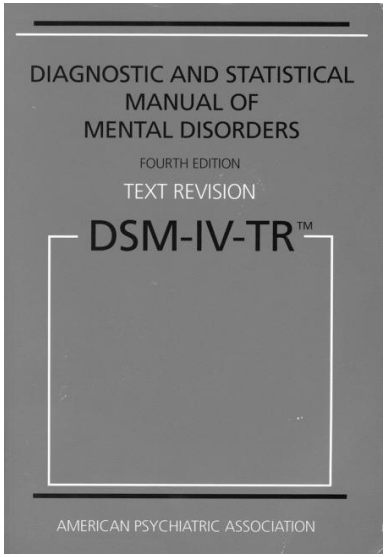
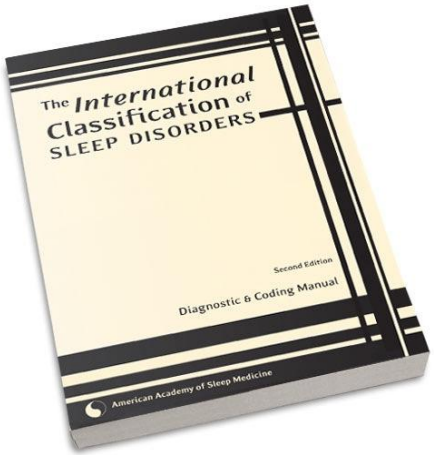
Recent changes in definition…

Initiating
Maintaining
EMA
Non-refreshing



1 month

Sleepiness
Fatigue
Poor Concentration
Body Aches
Irritability
Headache



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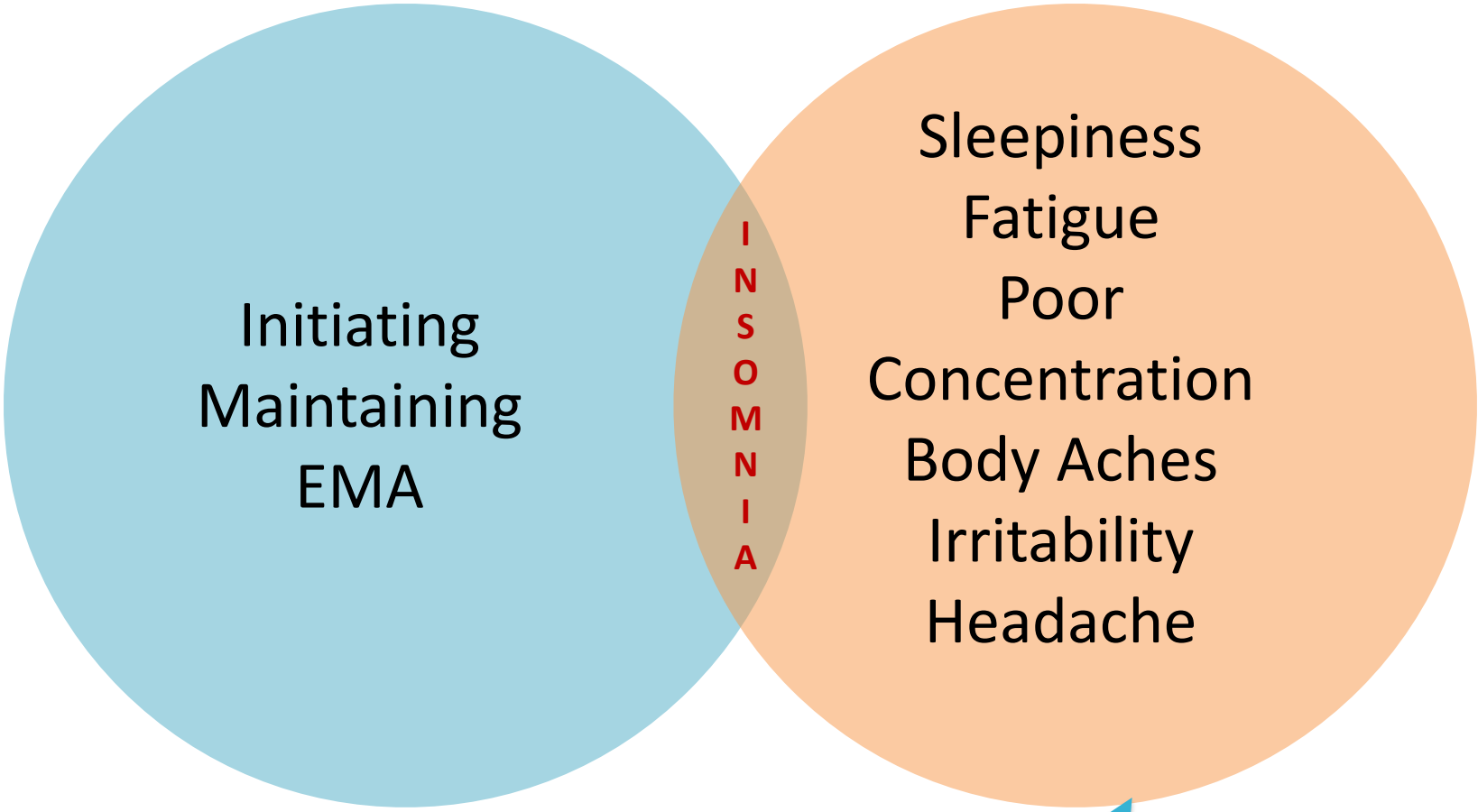
ICSD-3 / DSM-5



Rule of 3

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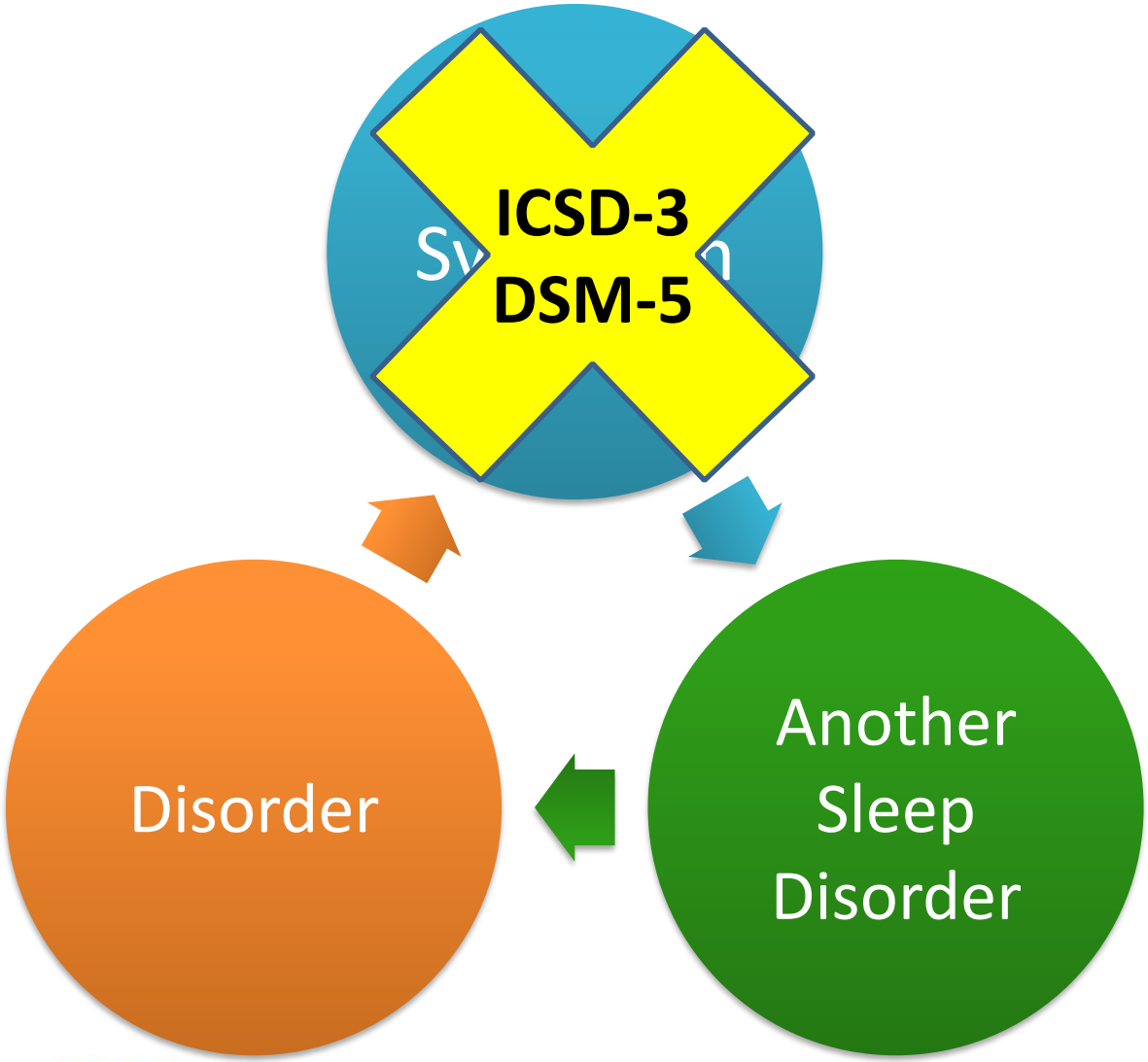
Summary so far…

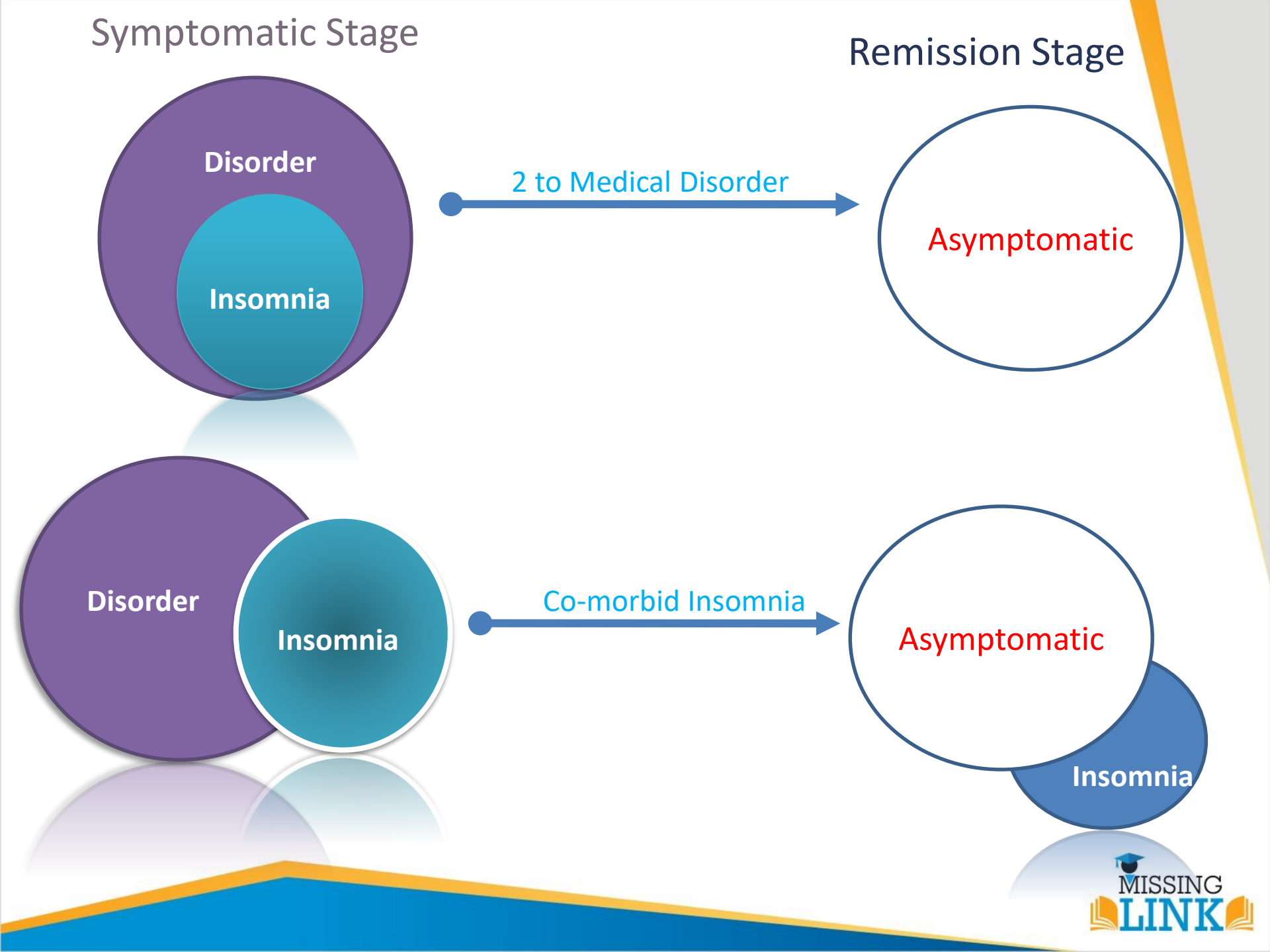


Message 1

- Insomnia
  - Short term Insomnia
  - Chronic insomnia/ Insomnia Disorder
- Co-morbid disorder

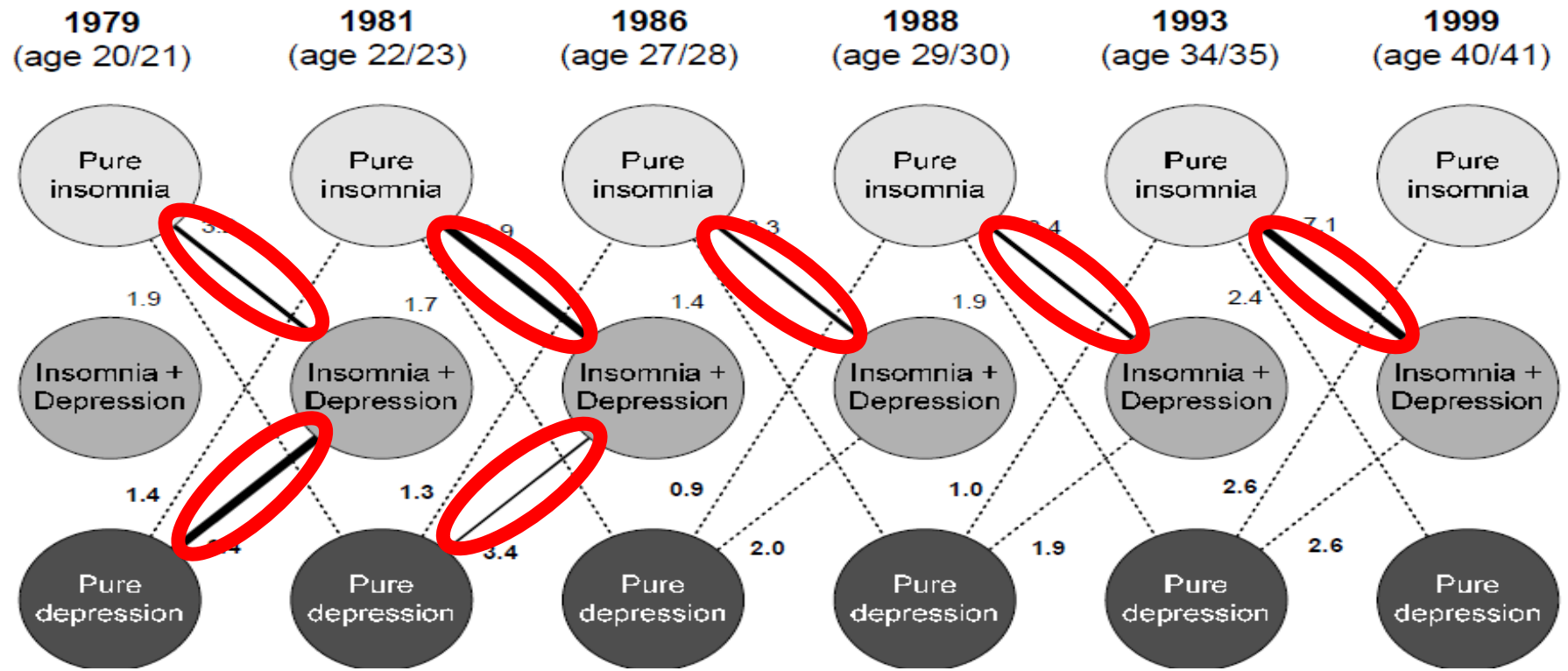
Why change in DSM-5…

Insomnia with other illness:
Secondary or Co-morbid ?

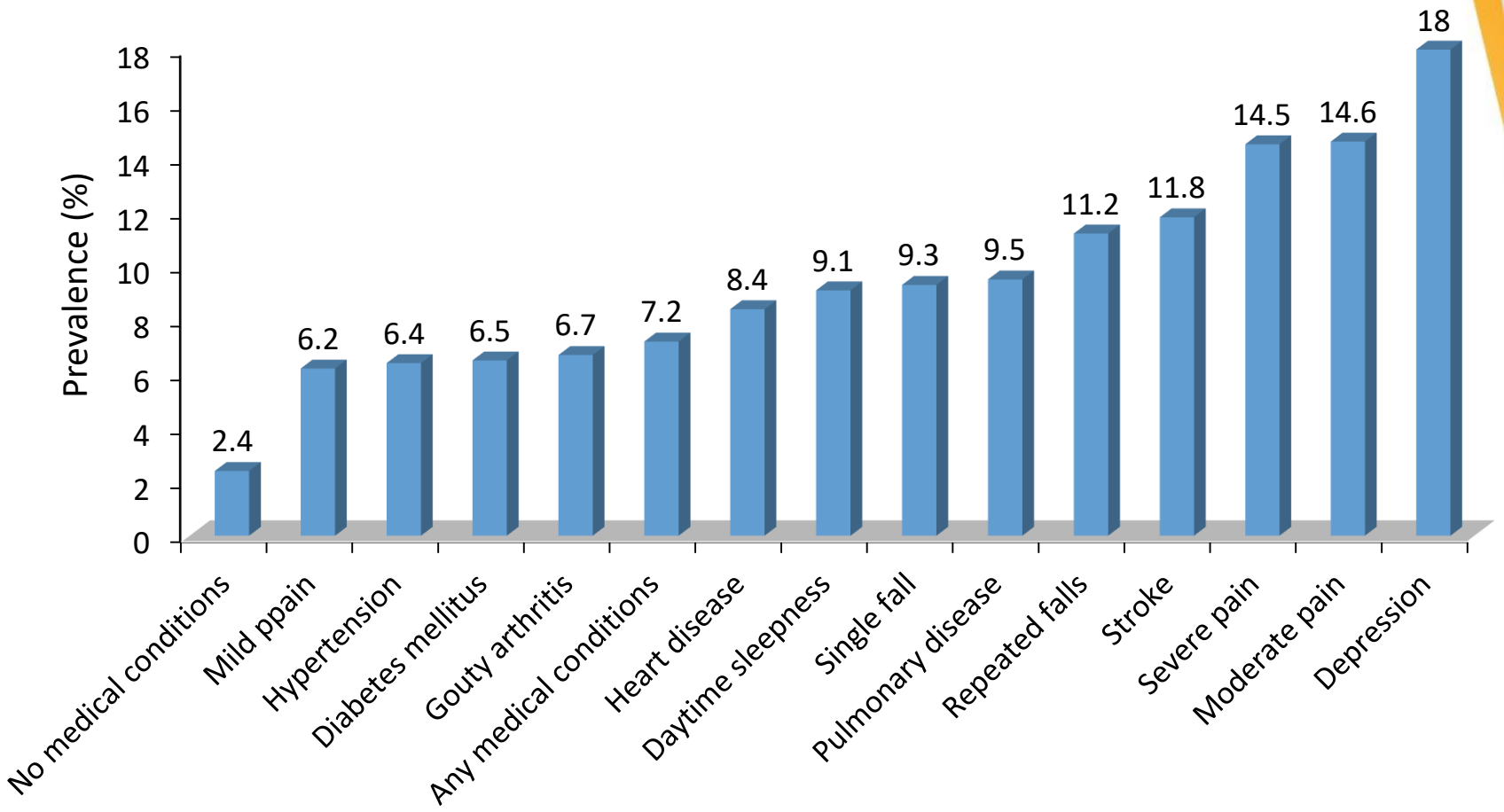

Symptomatic Stage
Remission Stage
Disorder
Insomnia
2 to Medical Disorder
Asymptomatic
Disorder
Insomnia
Co-morbid Insomnia
Asymptomatic
Insomnia

Prevalence, Course, and Comorbidity of Insomnia and Depression in Young Adults

Citation: Buysse DJ; Angst J; Gamma A; Ajdacic V; Eich D; Rössler W. Prevalence, Course, and Comorbidity of Insomnia and Depression in Young Adults. *SLEEP* 2008;31(4):473-480.

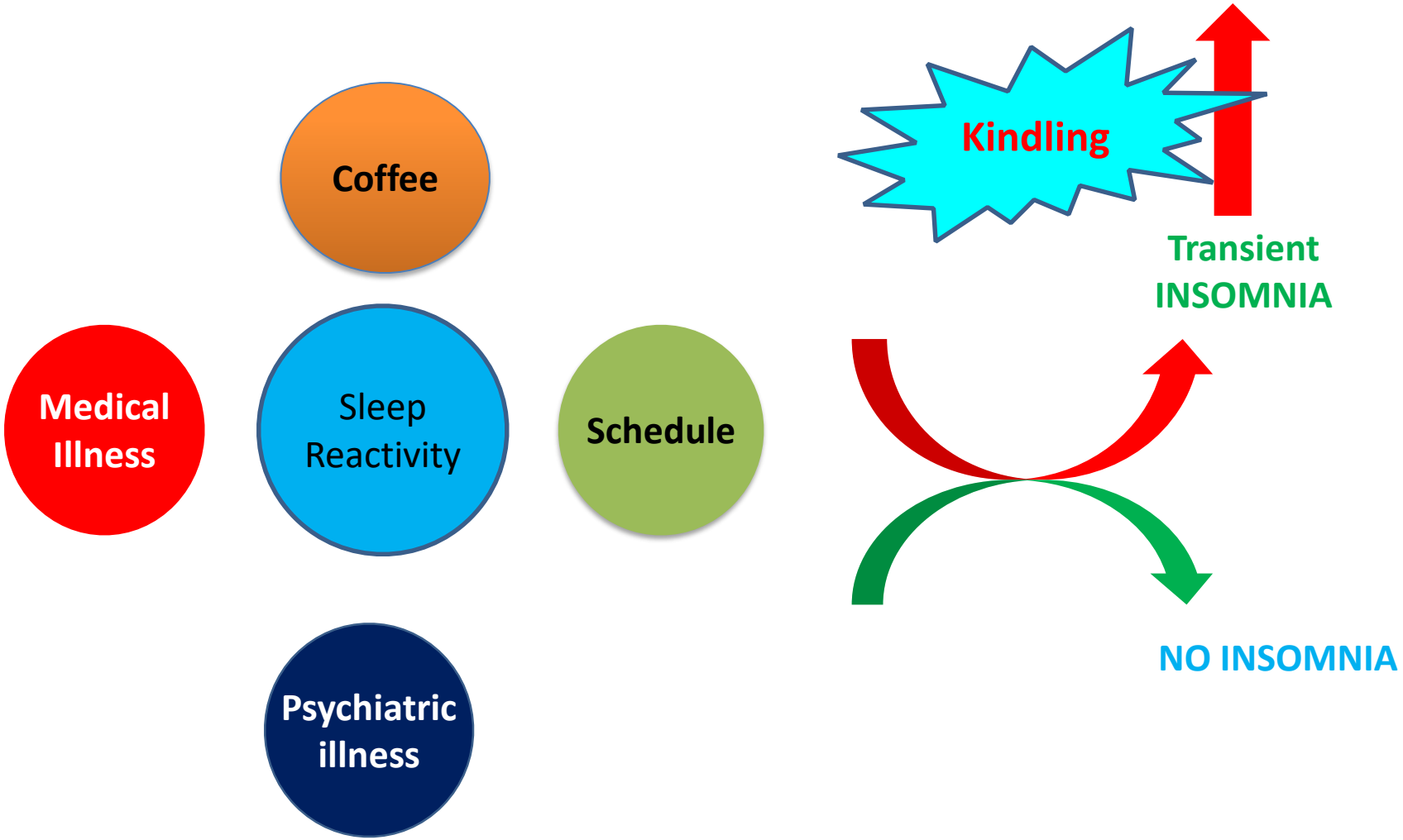


Prevalence: Co-morbid insomnia



Chiou JH, Chen HC, Chen KH, Chou P. Correlates of self-report chronic insomnia disorders with 1-6 month and 6-month durations in home-dwelling urban older adults - the Shih-Pai Sleep Study in Taiwan: a cross-sectional community study. BMC Geriatr. 2016 Jun 3;16:119.

Chronic Insomnia



Insomnia disorder

Charles M. Morin[1], Christopher L. Drake[2], Allison G. Harvey[3], Andrew D. Krystal[4], Rachel Manber[5], Dieter Riemann[6] and Kai Spiegelhalder[6]

Abstract | Insomnia disorder affects a large proportion of the population on a situational, recurrent or chronic basis and is among the most common complaints in medical practice. The disorder is predominantly characterized by dissatisfaction with sleep duration or quality and difficulties initiating or maintaining sleep, along with substantial distress and impairments of daytime functioning. It can present as the chief complaint or, more often, co-occurs with other medical or psychiatric disorders, such as pain and depression. Persistent insomnia has been linked with adverse long-term health outcomes, including diminished quality of life and physical and psychological morbidity. Despite its high prevalence and burden, the aetiology and pathophysiology of insomnia is poorly understood. In the past decade, important changes in classification and diagnostic paradigms have instigated a move from a purely symptom-based conceptualization to the recognition of insomnia as a disorder in its own right. These changes have been paralleled by key advances in therapy, with generic pharmacological and psychological interventions being increasingly replaced by approaches that have sleep-specific and insomnia-specific therapeutic targets. Psychological and pharmacological therapies effectively reduce the time it takes to fall asleep and the time spent awake after sleep onset, and produce a modest increase in total sleep time; these are outcomes that correlate with improvements in daytime functioning. Despite this progress, several challenges remain, including the need to improve our knowledge of the mechanisms that underlie insomnia and to develop more cost-effective, efficient and accessible therapies.

Message 2

- Insomnia is co-morbid with other disorders.
- Other medical illness and Insomnia run independent course.
- Adequate management:
  - Improves outcome
  - Prevent relapse

How to recognize?

- History
  - Patient
  - Bed partner
- Sleep Diary
- Objective testing
  - Actigraphy
  - Polysomnography

Sleep Diary

TWO WEEK SLEEP DIARY

INSTRUCTIONS:

1. Write the date, day of the week, and type of day: Work, School, Day Off, or Vacation.
2. Put the letter "C" in the box when you have coffee, cola or tea. Put "M" when you take any medicine. Put "A" when you drink alcohol. Put "E" when you exercise.
3. Put a line (I) to show when you go to bed. Shade in the box that shows when you think you fell asleep.
4. Shade in all the boxes that show when you are asleep at night or when you take a nap during the day.
5. Leave boxes unshaded to show when you wake up at night and when you are awake during the day.

SAMPLE ENTRY BELOW: On a Monday when I worked, I jogged on my lunch break at 1 PM, had a glass of wine with dinner at 6 PM, fell asleep watching TV from 7 to 8 PM, went to bed at 10:30 PM, fell asleep around Midnight, woke up and couldn't got back to sleep at about 4 AM, went back to sleep from 5 to 7 AM, and had coffee and medicine at 7:00 in the morning.

Today's Date	Day of the week	Type of Day Work, School, Off, Vacation	Noon	1PM	2	3	4	5	6PM	7	8	9	10	11PM	Midnight	1AM	2	3	4	5	6AM	7	8	9	10	11AM
sample	Mon.	Work		E					A				I									C M				

week 1

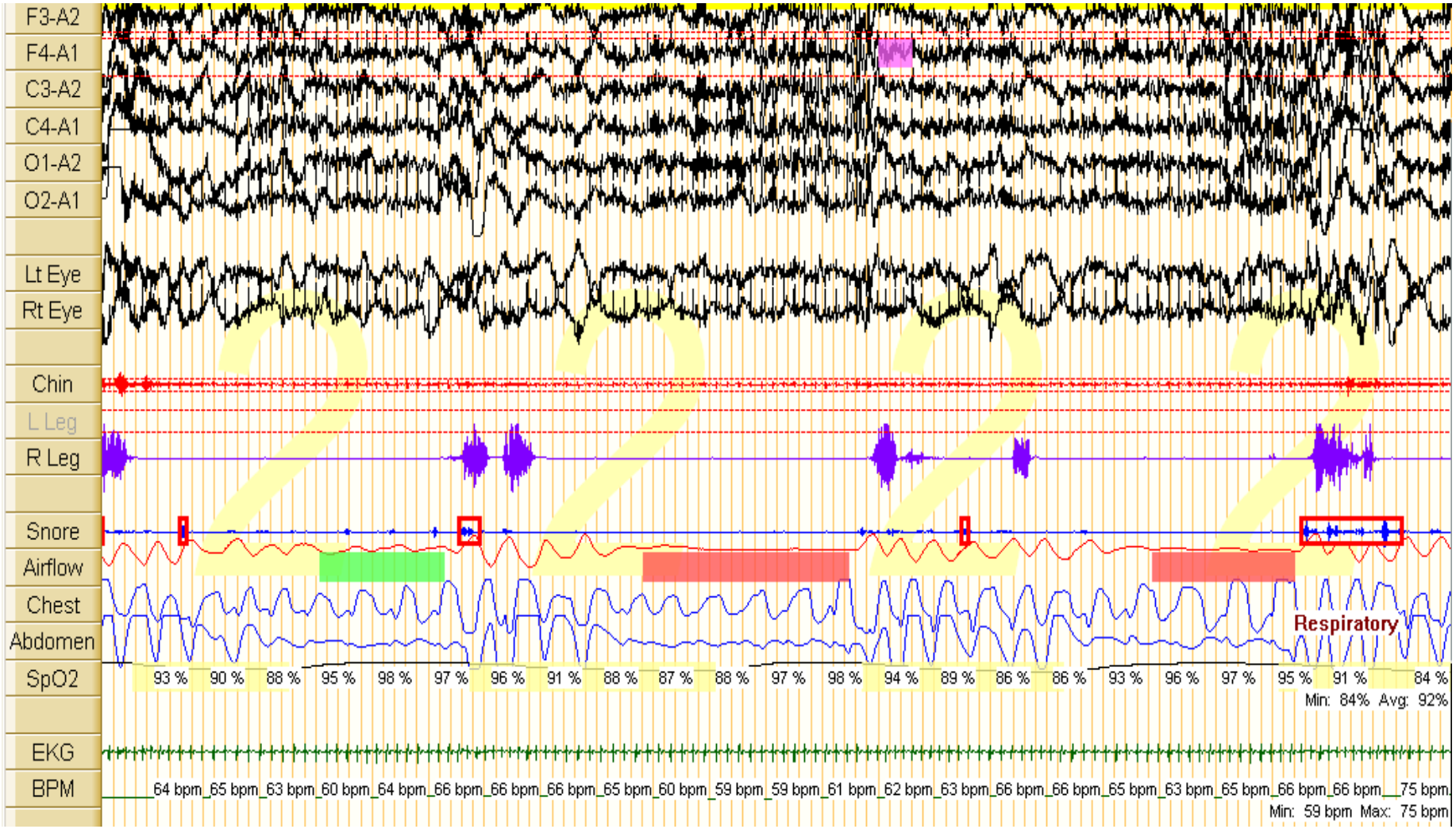
week 2

Polysomnography

Biggest Challenge

Non refreshing sleep

Polysomnography



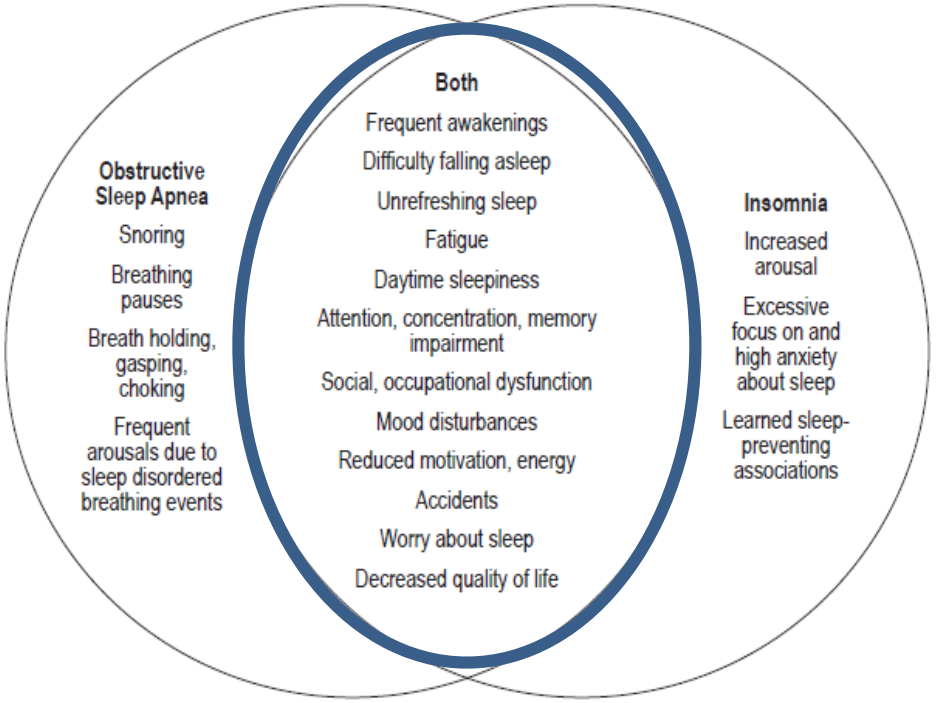
REVIEW ARTICLES

JCSM
Journal of Clinical Sleep Medicine

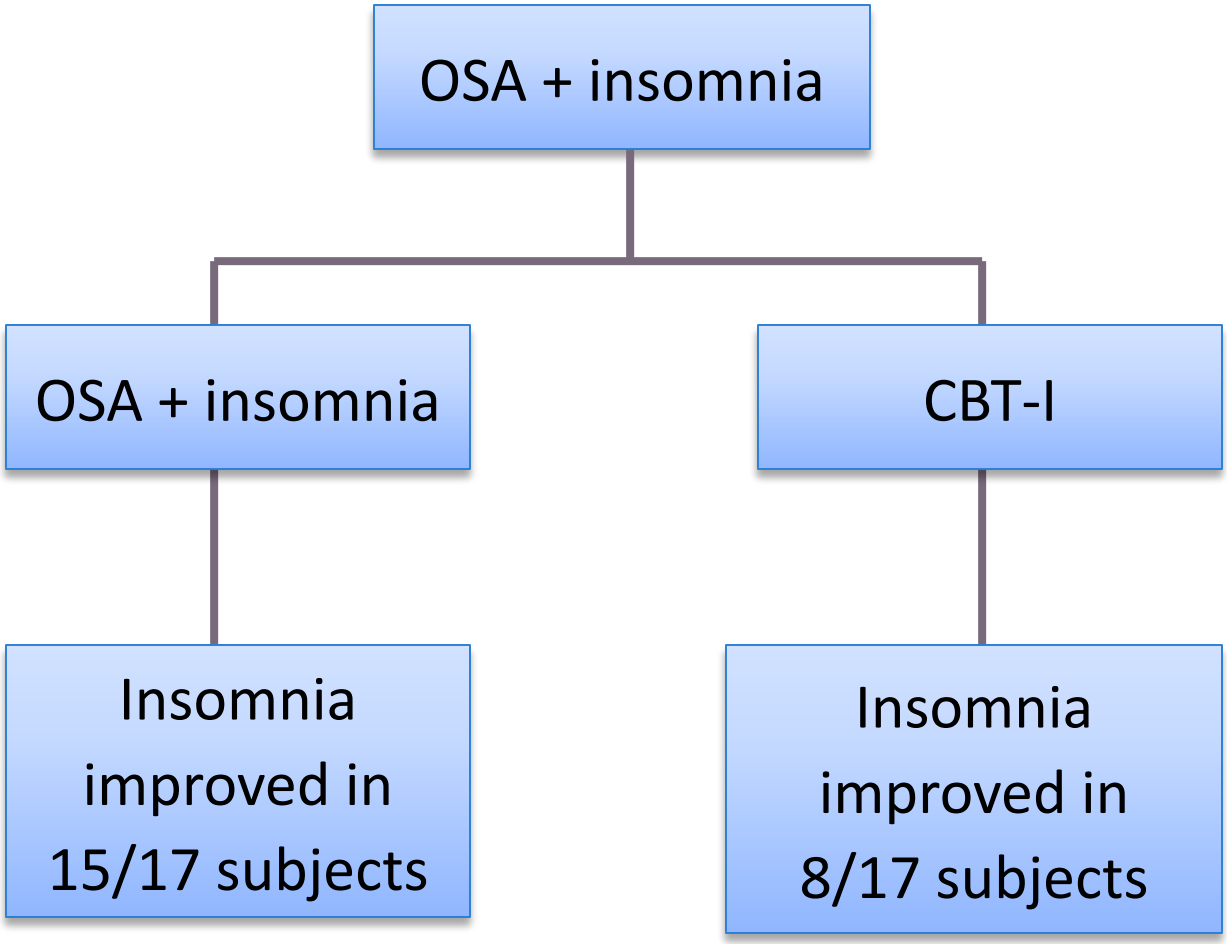
Comorbid Insomnia and Obstructive Sleep Apnea: Challenges for Clinical Practice and Research

Citation: Luyster FS; Buysse DJ; Strollo PJ. Comorbid insomnia and obstructive sleep apnea: challenges for clinical practice and research. *J Clin Sleep Med* 2010;6(2):196-204.

30-50 % Insomniacs had OSA



Treatment implications



Hypnotics

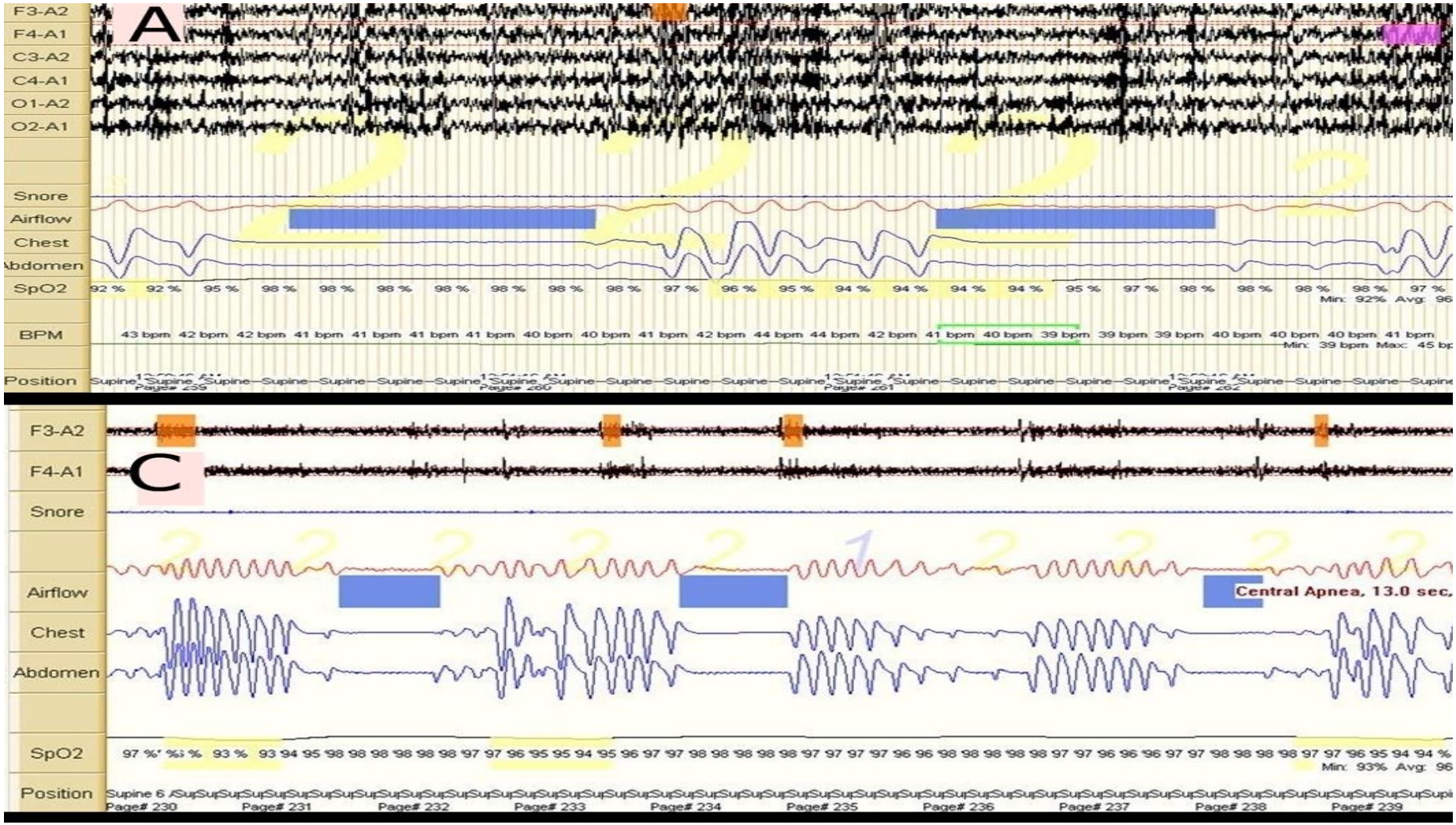
Message 4

- OSA common in general practice
- Overlooked condition…

Not only OSA…

- 38 years old male
- Non-refreshing sleep X 20 years
- Abnormal movements during sleep
- Diagnosed as MDD/ Seizures without any relief…

Central Sleep Apnea



Case Report

Idiopathic Central Sleep Apnoea: An Indian Case with Polysomnographic Findings

Ravi Gupta[1], Girish Sindhwani[2], Sourav Goyal[3], Jagdish Rawat[2] and Vikas Kesarwani[2]

Deptartments of Psychiatry and Sleep Clinic[1], Pulmonary Medicine[2], and Internal Medicine[3] , Himalayan Institute of Medical Sciences, Dehradun, (Uttarakhand), India

Abstract

Patients with idiopathic central sleep apnoea (ICSA) usually complain of poor quality sleep; yet many of them do not receive appropriate treatment because of poor recognition of ICSA by health professionals. We report the case of a patient with ICSA who was misdiagnosed and received treatment for seizures, depression or anxiety for a number of years and discuss the differential diagnosis and treatment options for ICSA. **[Indian J Chest Dis Allied Sci 2014;56:41-44]**

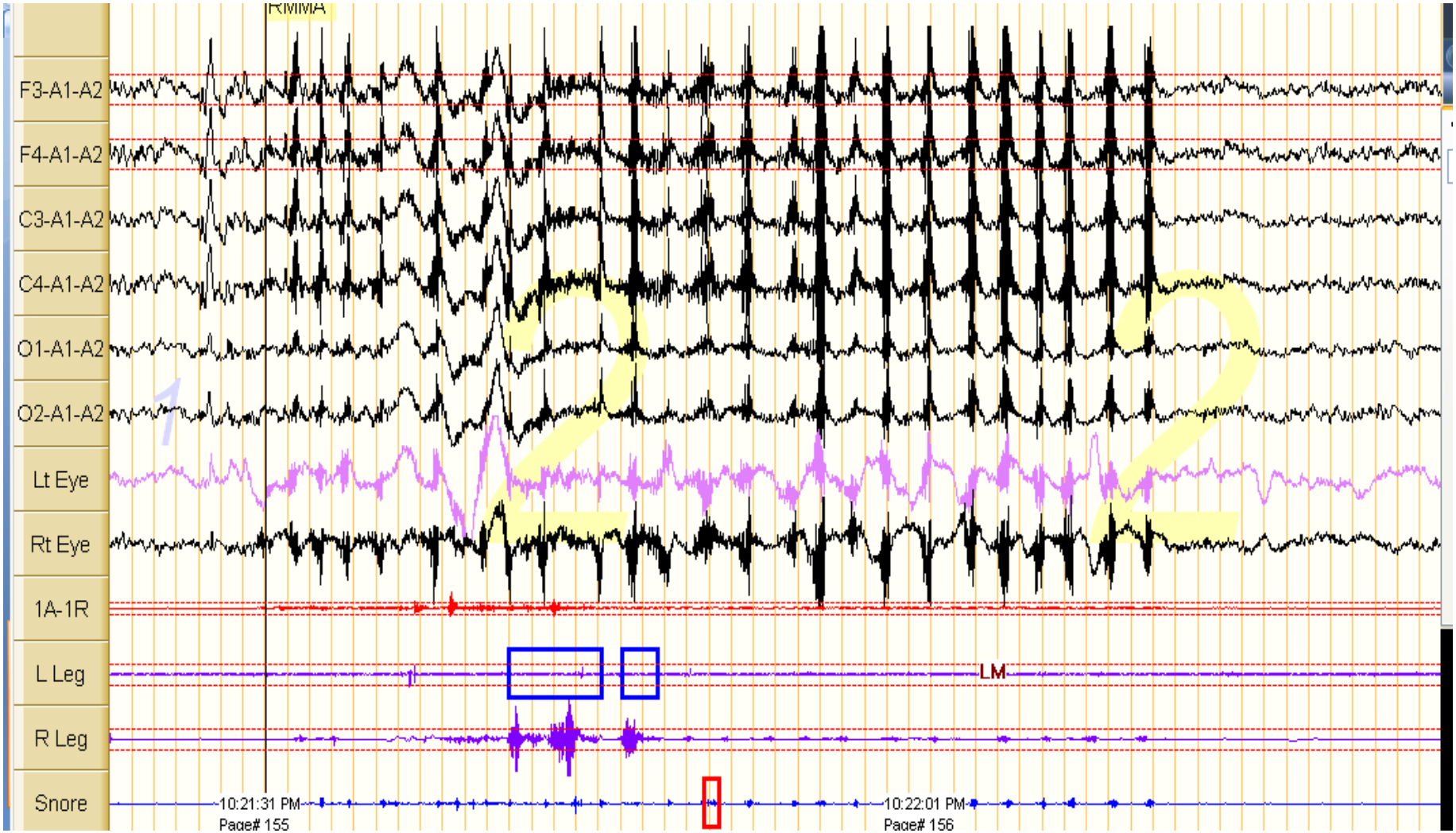
Message 5

- OSA is not the only SDB in general practice…

Insomnia AND Headache

- 60 years old male
- 6 years
  - Insomnia
  - Morning Headache
  - Daytime fatigue
  - Mood Euthymic
- Earlier diagnosis:
  - Somatization
  - TTH

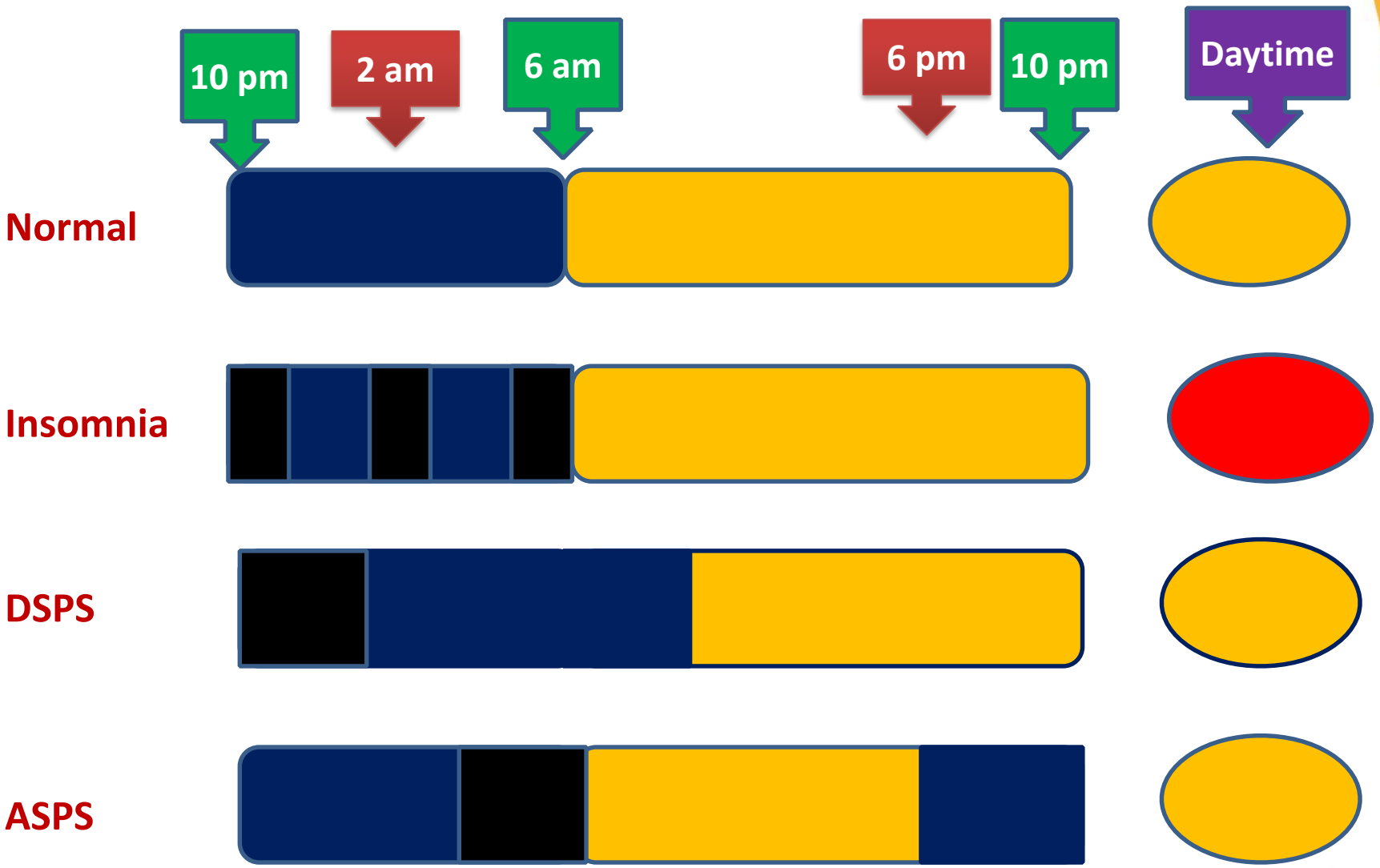
Bruxism


F3-A1-A2
F4-A1-A2
C3-A1-A2
C4-A1-A2
O1-A1-A2
O2-A1-A2
Lt Eye
Rt Eye
1A-1R
L Leg
R Leg
Snore
LM
10:21:31 PM
Page# 155
10:22:01 PM
Page# 156

Message 6

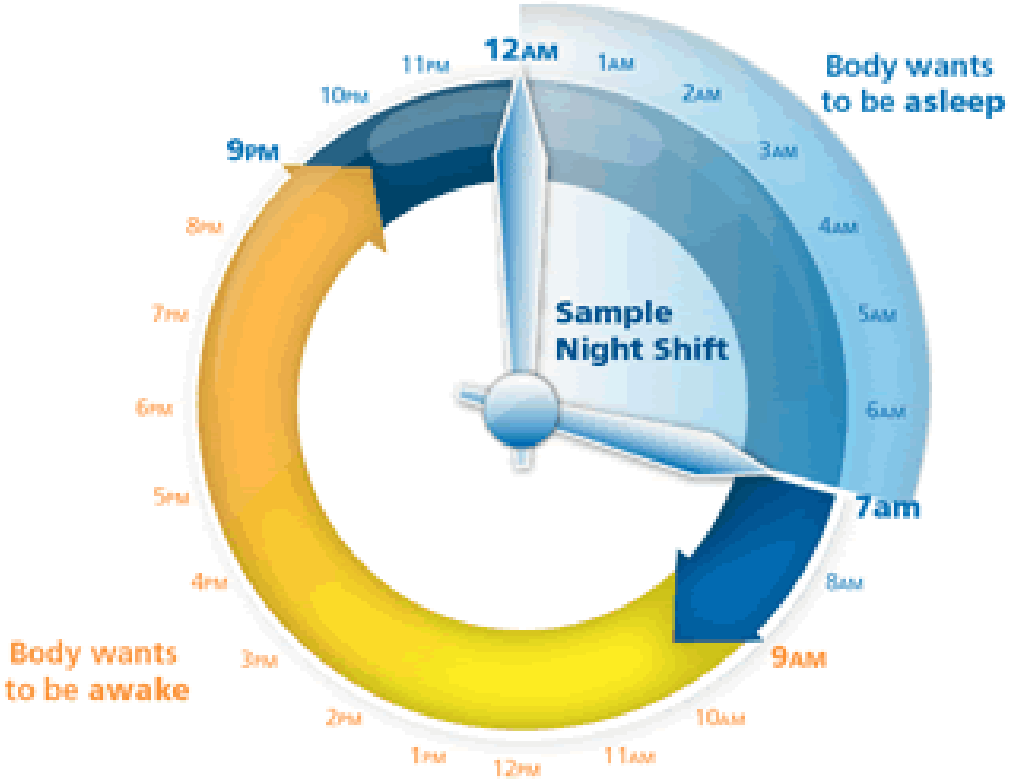
- Subjects with insomnia and headache should be assessed carefully…

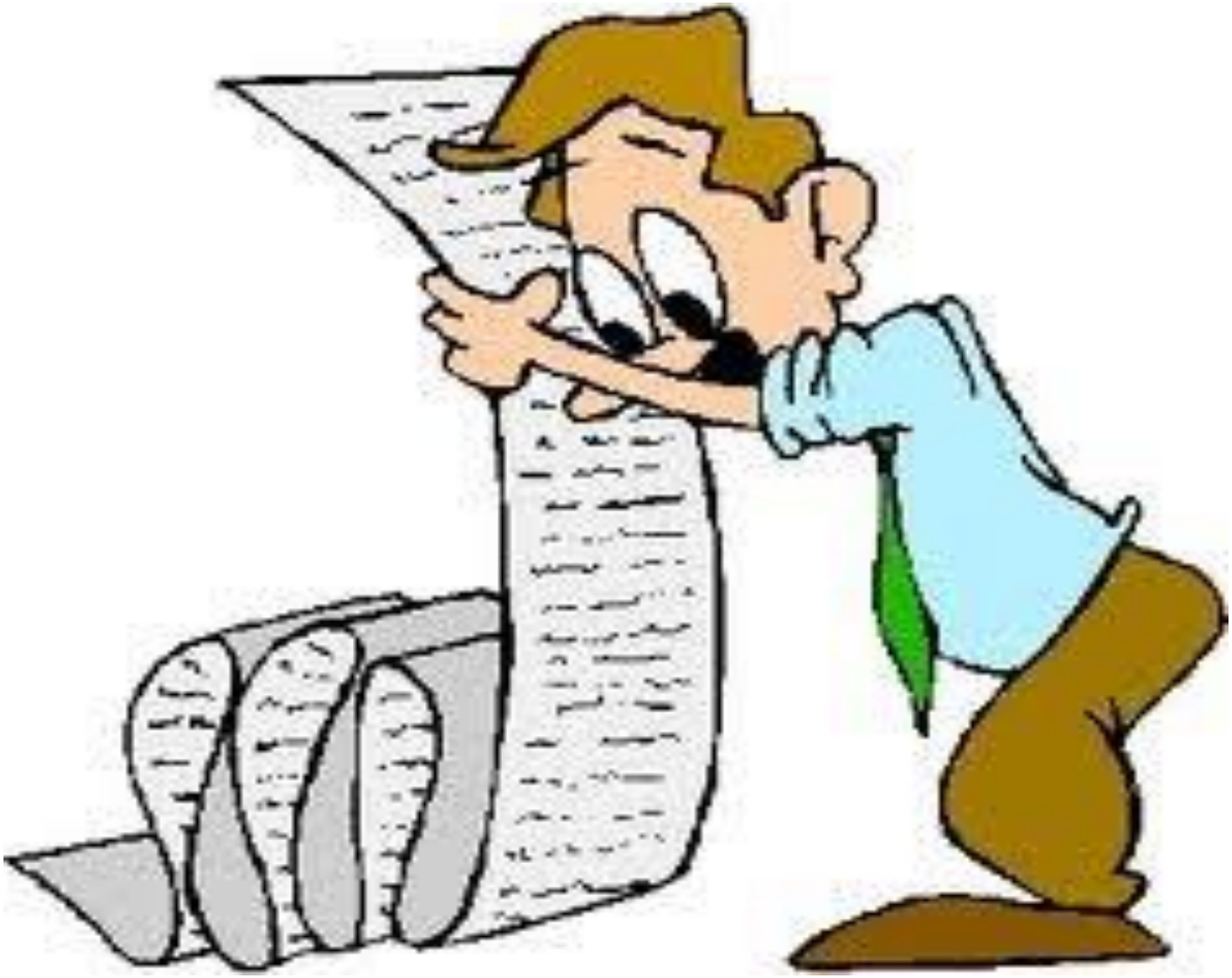
Insomnia = CRSD

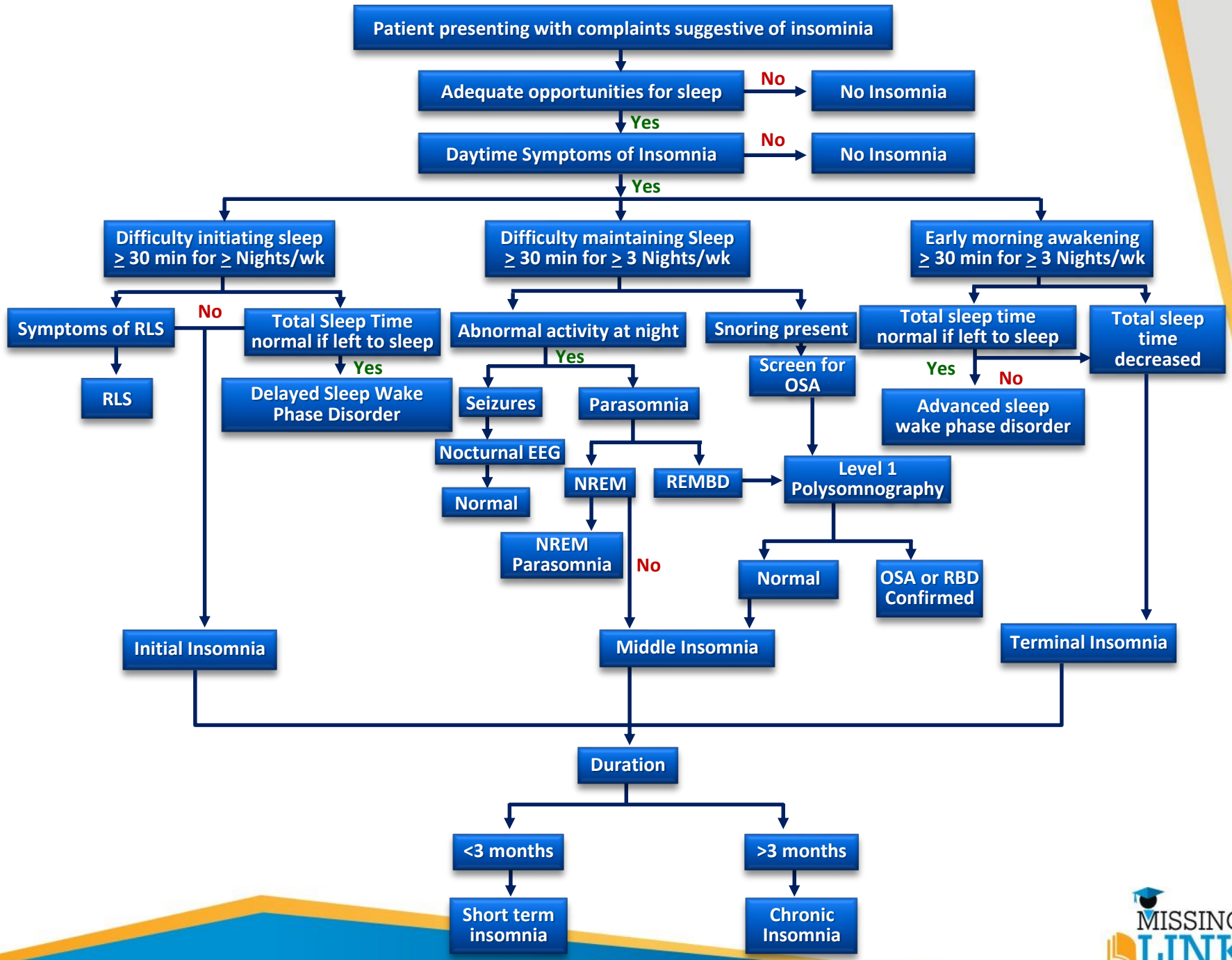


Message 7

- A normal duration of sleep with abnormal timing is not insomnia.






Patient presenting with complaints suggestive of insominia
Adequate opportunities for sleep
No
No Insomnia
Yes
Daytime Symptoms of Insomnia
No
No Insomnia
Yes
Difficulty initiating sleep ≥ 30 min for ≥ Nights/wk
Difficulty maintaining Sleep ≥ 30 min for ≥ 3 Nights/wk
Early morning awakening ≥ 30 min for ≥ 3 Nights/wk
Symptoms of RLS
No
Total Sleep Time normal if left to sleep
RLS
Yes
Delayed Sleep Wake Phase Disorder
Abnormal activity at night
Snoring present
Yes
Seizures
Parasomnia
Nocturnal EEG
Normal
NREM
REMBD
NREM Parasomnia
No
Screen for OSA
Level 1 Polysomnography
Normal
OSA or RBD Confirmed
Total sleep time normal if left to sleep
Total sleep time decreased
Yes
No
Advanced sleep wake phase disorder
Initial Insomnia
Middle Insomnia
Terminal Insomnia
Duration
<3 months
>3 months
Short term insomnia
Chronic Insomnia

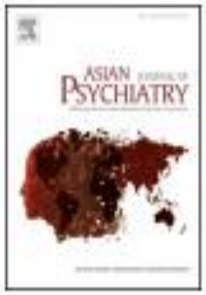
Comprehensive reading

Asian Journal of Psychiatry 12 (2014) 23–30

Contents lists available at ScienceDirect

Asian Journal of Psychiatry

journal homepage: www.elsevier.com/locate/ajp



Review

When insomnia is not just insomnia: The deeper correlates of disturbed sleep with reference to DSM-5

Ravi Gupta [a,*], Dora Zalai [b], David Warren Spence [c], Ahmed S. BaHammam [d], Chellamuthu Ramasubramanian [e], Jaime M. Monti [f], Seithikurippu R. Pandi-Perumal [g]

[a] Department of Psychiatry & Sleep Clinic, Himalayan Institute of Medical Sciences, Swami Ram Nagar, Doiwala, Dehradun 248140, India
[b] Department of Psychology, Ryerson University, 350 Victoria Street, Toronto M5B 2K3, ON, Canada
[c] Independent Researcher, 652 Dufferin Street, Toronto M6K 2B4, ON, Canada
[d] University Sleep Disorders Center, College of Medicine, National Plan for Science and Technology, King Saud University, Riyadh, Saudi Arabia
[e] M.S. Chellamuthu Trust and Research Foundation, K.K. Nagar, Madurai 625002, India
[f] Department of Pharmacology and Therapeutics, School of Medicine Clinics Hospital, Montevideo 11600, Uruguay
[g] Center for Healthful Behavior Change (CHBC), Division of Health and Behavior, Department of Population Health, NYU Langone Medical Center, Translational Research Building, 227 East 30th Street (between 2nd and 3rd Avenue), Floor # 6 – 632D, New York, NY 10016, USA

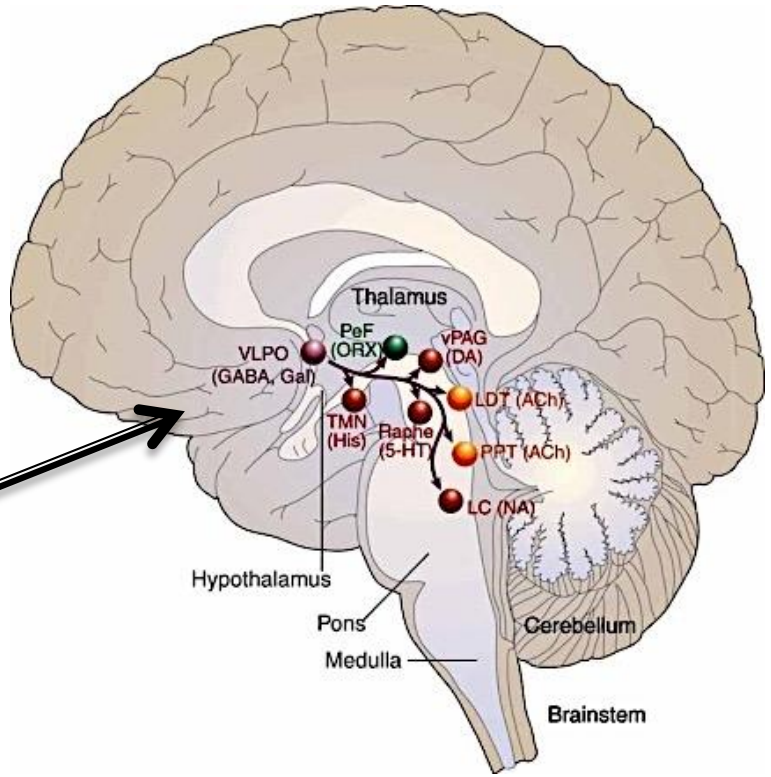
Treatment of Insomnia

- Pharmacological
  - Conventional
  - Newer Approaches
- Behavioral
  - CBT-I

Sleep Promotion through Medication

Weak Evidence

Antidepressants
Antipsychotics
Anti-histaminics



Wade Thompson, Teo Quay, Jessica Tang, Lise M Bjerre, Barbara Farrell. Atypical antipsychotics for insomnia: a systematic review and meta-analysis. PROSPERO 2015:CRD42015017748 Available from http://www.crd.york.ac.uk/PROSPERO_REBRANDING/display_record.asp?ID=CRD42015017748

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Sleep Promotion through Medication

GABA receptors related A/E Tolerance Dependence

BZDs
Z Drugs
Barbiturates

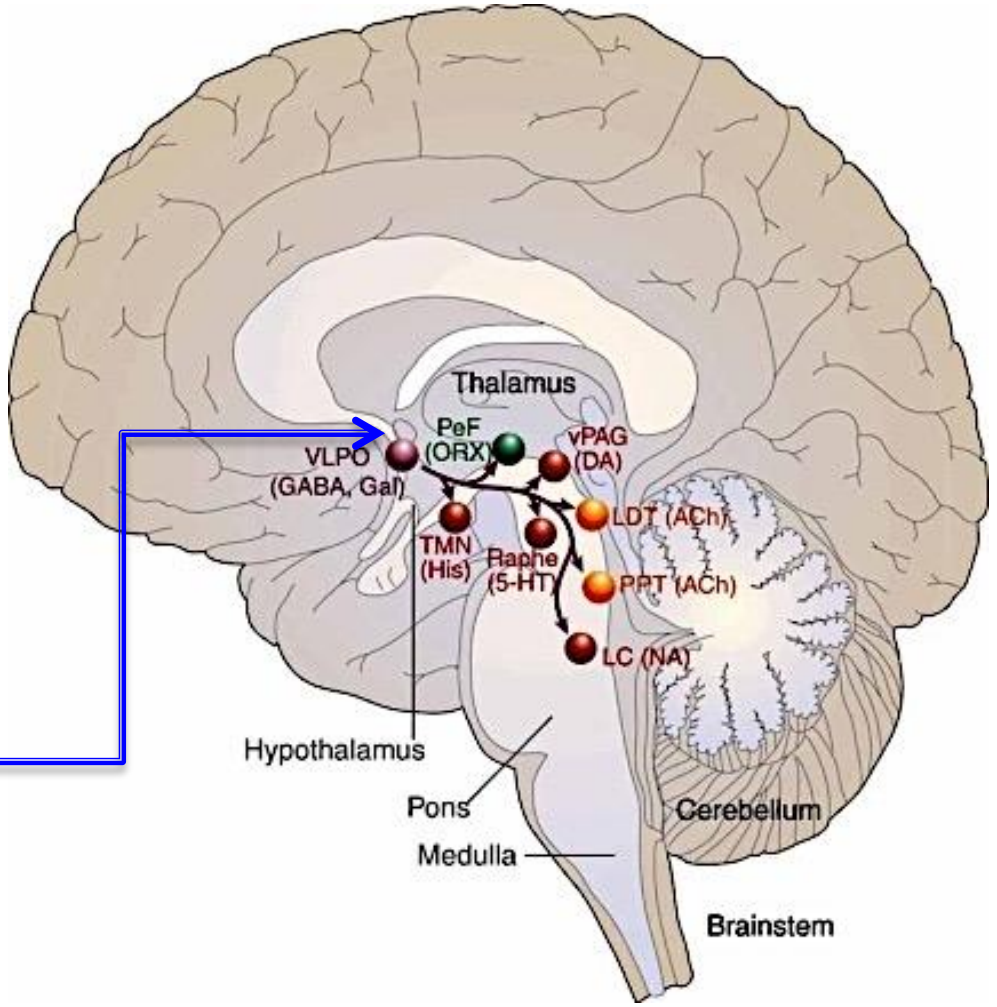


Table 6: Benzodiazepines and Benzodiazepine Receptor Agonists

Molecule	Half Life (hr)	Dose (mg/d)	Formulations	Common Adverse effects
Benzodiazepines				
Oxazepam	3-20	10-30 mg	Tablet	Memory lapses, daytime sleepiness, ataxia, fall, automatism, slurred speech
Trialzolam	1.5-5.5	0.5-1 mg	Tablet	
Lorazepam	10-20	1-4 mg	Tablet/Injection	
Alprazolam	6-20	0.25-1 mg	Tablet/Sustained released	
Diazepam	20-50	5-20 mg	Tablet/Injection	
Clonazepam	18-40	0.5-2 mg	Tablet/Mouth dissolving	
Nitrazepam	30-40	5-10 mg	Tablet	
Benzodiazepine Receptor Agonists				
Zaleplon	1	5-10	Tablet	Memory lapses, hallucinations, paradoxical excitement
Eszopiclone	5	1-2	Tablet	
Zolpidem	2-4	5-10	Tablet/Extended release/Sublingual low dose/Sublingual high dose/Oral spray	

Table 5: How to choose a drug from the available molecules?

Age of the patient and risks associated with sedation
Comorbid psychiatric and other medical disorders
Pharmacokinetic properties of the molecule in question
Drug interactions with other medication that the patient is taking
Adverse effects of the drug in question: short term as well as long term
Availability of the molecule
Cost of the drug
Allergy to the molecule in question

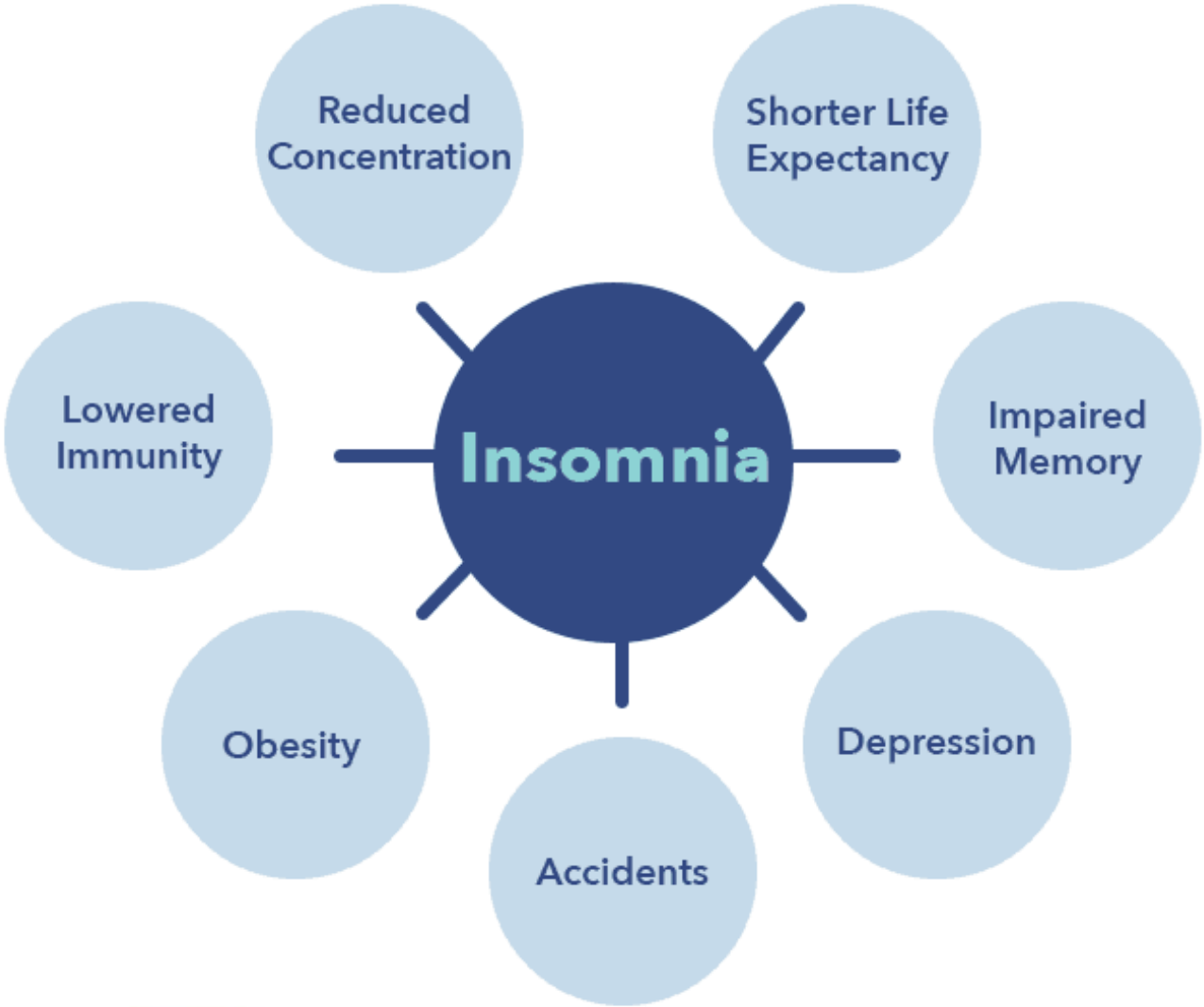
BMC Fam Pract. 2012; 13: 40.
Published online 2012 May 25. doi: 10.1186/1471-2296-13-40
PMCID: PMC3481424

Comparative effectiveness of cognitive behavioral therapy for insomnia: a systematic review

Matthew D Mitchell,[✉1] Philip Gehrman,[2,3] Michael Perlis,[2,3] and Craig A Umscheid[1,4,5,6]

- RCTs showed
- In short term
  - BZD better than CBT-I
  - CBT-I better than Non-BZD
- In long term
- CBT-I better than BZD and Non-BZDs

What if you don't treat?



Socio-economic Impact

INSOMNIA

Medical and Socio-Professional Impact of Insomnia

Damien Léger, MD, Biol D; Christian Guilleminault, MD, Biol D; Gary Bader, MD; Emile Lévy, PhD; and Michel Paillard, MD

Study O
indirect e
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insomnia
accidents
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INSOMNIA

The Direct and Indirect Costs of Untreated Insomnia in Adults in the United States

Ronald J. Ozminkowski, PhD[1]; Shaohung Wang, PhD[2]; James K. Walsh, PhD[3]

[1]Institute for Health MI; [2]Thomson Meds

Objectives: To es
insomnia among y
costs of untreated
Design: A retrospe
to matched sample
Settings: Self-insu
U.S.
Patients or Partici
tients with insomni
Interventions: NA
Measurements ar
pharmacy, and em
fore an index date
diagnosis with or t
time during July 1,
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EPIDEMIOLOGY

The Economic Cost of Sleep Disorders

David R Hillman, MB, FRCPE, FANZCA[1]; Anita Scott Murphy, BEc[2]; Ral Antic, MB, FRACP[3]; Lynne Pezzullo, BEc[2]

[1]Sir Charles Gairdner Hospital, Perth; [2]Access Economics, Canberra; [3]Department of Thoracic Medicine, Royal Adelaide Hospital, Adelaide, Australia

Study Objectives: To determine the economic cost of sleep disorders in Australia and relate these to likely costs in similar economies.

Design and Setting: Analysis of direct and indirect costs for 2004 of sleep disorders and the fractions of other health impacts attributable to sleep disorders, using data derived from national databases (including the Australian Institute of Health and Welfare and the Australian Bureau of Statistics).

Measurements: Direct health costs of sleep disorders (principally, obstructive sleep apnea, insomnia, and periodic limb movement disorder) and of associated conditions; indirect financial costs of associated work-related accidents, motor vehicle accidents, and other productivity losses; and nonfinancial costs of burden of disease. These were expressed in US dollars ($).

Results: The overall cost of sleep disorders in Australia in 2004 (population: 20.1 million) was $7494 million. This comprised direct health costs of $146 million for sleep disorders and $313 million for associated conditions, $1956 million for work-related injuries associated with sleep disorders (net of health costs), $808 million for private motor vehicle accidents (net of health costs), $1201 million for other productivity losses, $100 million for the real costs associated with raising alternative taxation revenue, and $2970 million for the net cost of suffering.

Conclusions: The direct and indirect costs of sleep disorders are high. The total financial costs (independent of the cost of suffering) of $4524 million represents 0.8% of Australian gross domestic product. The cost of suffering of $2970 million is 1.4% of the total burden of disease in Australia.

Keywords: Sleep disorders, obstructive sleep apnea, periodic limb movement disorder, insomnia, costs

Citation: Hillman DR; Murphy AS; Antic R et al. The economic cost of sleep disorders. *SLEEP* 2006;29(3):299-305.

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CLINICAL PRACTICE GUIDELINES

Clinical Practice Guidelines for Sleep Disorders

Ravi Gupta, Sourav Das[1], Kishore Gujar[2], K K Mishra[3], Navendu Gaur[4], Abdul Majid[5]

Dept. of Psychiatry and Sleep Medicine, Himalayan Institute of Medical Sciences, Doiwala, Dehradun, [1]Consultant Psychiatrist and Sleep Specialist, Medica Superspeciality Hospital, Kolkata; Somnos Sleep Clinic, Kolkata. [2]Dy. Medical Superintendent, YCM Hospital, PCMC, Pimpri, [3]HOD, Dept. of Psychiatry, JNMC, Wardha, [4]Director, Gaur Mental-Health Clinic, Ajmer-305001, [5]Department of Psychiatry, SKIMS Medical College, Srinagar

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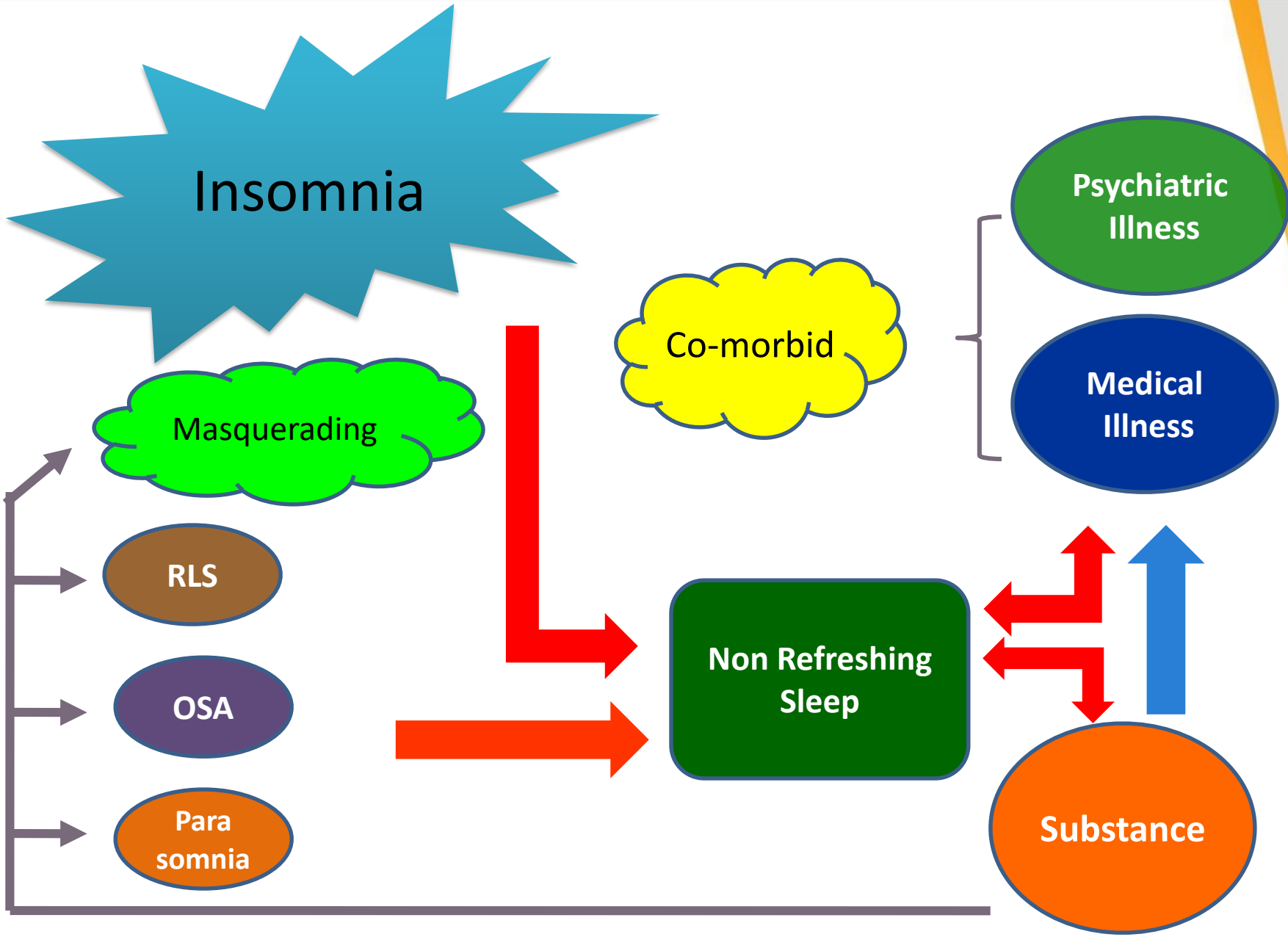
Website: www.indianjpsychiatry.org	Quick Response Code
DOI: 10.4103/0019-5545.196978	

How to cite this article: Gupta R, Das S, Gujar K, Mishra KK, Gaur N, Majid A. Clinical Practice Guidelines for Sleep Disorders. Indian J Psychiatry 2017;59:116-38.

Summary…


Insomnia
Co-morbid
Psychiatric Illness
Medical Illness
Masquerading
RLS
OSA
Para somnia
Non Refreshing Sleep
Substance

Summary

- RCTs showed
- In short term
  - BZD better than CBT-I
  - CBT-I better than Non-BZD
- In long term
  - CBT-I better than BZD and Non-BZDs

sleepdoc.ravi@gmail.com

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