



Il monitoraggio notturno e diurno del disturbo dell'insonnia cronica. Valutazione della QoL

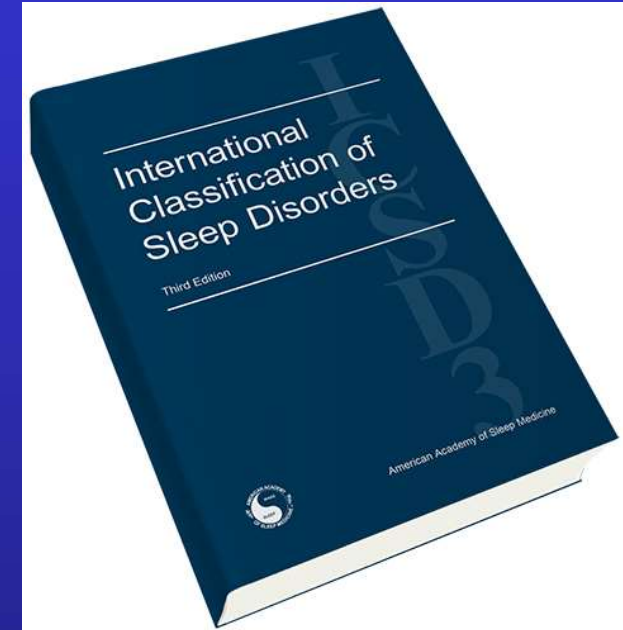
**Centro Multidisciplinare di Riferimento Regionale
per i Disturbi del Sonno
(DGR 11-10519, 29 settembre 2003)**

**AOU Città della Salute e della Scienza - Molinette
Università di Torino - Dipartimento di Neuroscienze**

Classificazione insonnie



- **Short-Term Insomnia Disorder**
- **Chronic Insomnia Disorder**
- **Other Insomnia Disorder**



Diagnostic Criteria (criteria A-E must be met)

A. The patient reports, or the patient's parent or caregiver observes, one or more of the following:

difficulty initiating sleep, difficulty maintaining sleep, waking up earlier than desired, resistance to going to bed on appropriate schedule, difficulty sleeping without parent or caregiver intervention.

B. The patient reports, or the patient's parent or caregiver observes, one or more of the following related to the nighttime sleep difficulty:

fatigue/malaise, attention, concentration, or memory impairment, impaired social, family, vocational, or academic performance, mood disturbance/irritability, daytime sleepiness, behavioral problems (e.g., hyperactivity, impulsivity, aggression), reduced motivation/energy/initiative, proneness for errors/accidents, concerns about or dissatisfaction with sleep.

Insomnia Severity Index



Insomnia Problem	None	Mild	Moderate	Severe	Very Severe
1. Difficulty falling asleep	0	1	2	3	4
2. Difficulty staying asleep	0	1	2	3	4
3. Problems waking up too early	0	1	2	3	4

4. How SATISFIED/DISSATISFIED are you with your CURRENT sleep pattern?
 Very Satisfied Satisfied Moderately Satisfied Dissatisfied Very Dissatisfied
 0 1 2 3 4

5. How NOTICEABLE to others do you think your sleep problem is in terms of impairing the quality of your life?
 Not at all
 Noticeable A Little Somewhat Much Very Much Noticeable
 0 1 2 3 4

6. How WORRIED/DISTRESSED are you about your current sleep problem?
 Not at all
 Worried A Little Somewhat Much Very Much Worried
 0 1 2 3 4

7. To what extent do you consider your sleep problem to INTERFERE with your daily functioning (e.g. daytime fatigue, mood, ability to function at work/daily chores, concentration, memory, mood, etc.) CURRENTLY?
 Not at all
 Interfering A Little Somewhat Much Very Much Interfering
 0 1 2 3 4

Total score categories:
 0–7 = No clinically significant insomnia
 8–14 = Subthreshold insomnia
 15–21 = Clinical insomnia (moderate severity)
 22–28 = Clinical insomnia (severe)



Insomnia Severity Index and PSG

Measures	Pre <i>r</i>	Post <i>r</i>
<i>Sleep diary</i>		
Sleep-onset	0.37*	0.66*
Wake after sleep-onset	0.55*	0.91*
Early morning awakening	0.32*	0.50*
Total score vs. sleep efficiency	-0.35*	-0.60*
<i>Polysomnography</i>		
Sleep onset	0.45*	0.39*
Wake after sleep onset	0.16	0.45*
Early morning awakening	0.07	0.23
Total score vs. sleep efficiency	-0.09	-0.35*

Athens Insomnia Scale



Sleep induction (time it takes you to fall asleep after turning-off the lights)

0: No problem 1: Slightly delayed 2: Markedly delayed 3: Very delayed or did not sleep at all

Awakenings during the night

0: No problem 1: Minor problem 2: Considerable problem 3: Serious problem or did not sleep all

Final awakening earlier than desired

0: Not earlier 1: A little earlier 2: Markedly earlier 3: Much earlier or did not sleep at all

Total sleep duration

0: Sufficient 1: Slightly insufficient 2: Markedly insufficient 3: Very insufficient or did not sleep at all

Overall quality of sleep (no matter how long you slept)

0: Satisfactory 1: Slightly unsatisfactory 2: Markedly unsatisfactory 3: Very unsatisfactory or did not sleep at all

Sense of well-being during the day

0: Normal 1: Slightly decreased 2: Markedly decreased 3: Very decreased

Functioning (physical and mental) during the day

0: Normal 1: Slightly decreased 2: Markedly decreased 3: Very decreased

Sleepiness during the day

0: None 1: Mild 2: Considerable 3: Intense

Athens Insomnia Scale



Severity Level	Cutoff Score	Sensitivity	Specificity	LR+	LR-
Mild vs. moderate	6.50	0.96	0.47	1.81	0.09
	7.50	0.92	0.62	2.44	0.13
	8.50	0.84	0.75	3.30	0.22
	9.50	0.74	0.83	4.45	0.32
	10.50	0.64	0.89	5.89	0.41
	11.50	0.53	0.92	6.94	0.51
Moderate vs. severe	12.50	1.00	0.62	2.61	0.00
	13.50	0.88	0.76	3.61	0.17
	14.50	0.88	0.89	7.88	0.14
	15.50	0.88	0.91	9.63	0.14
	16.50	0.63	0.95	12.38	0.40
	17.50	0.63	0.97	20.63	0.39

Altre rating scales



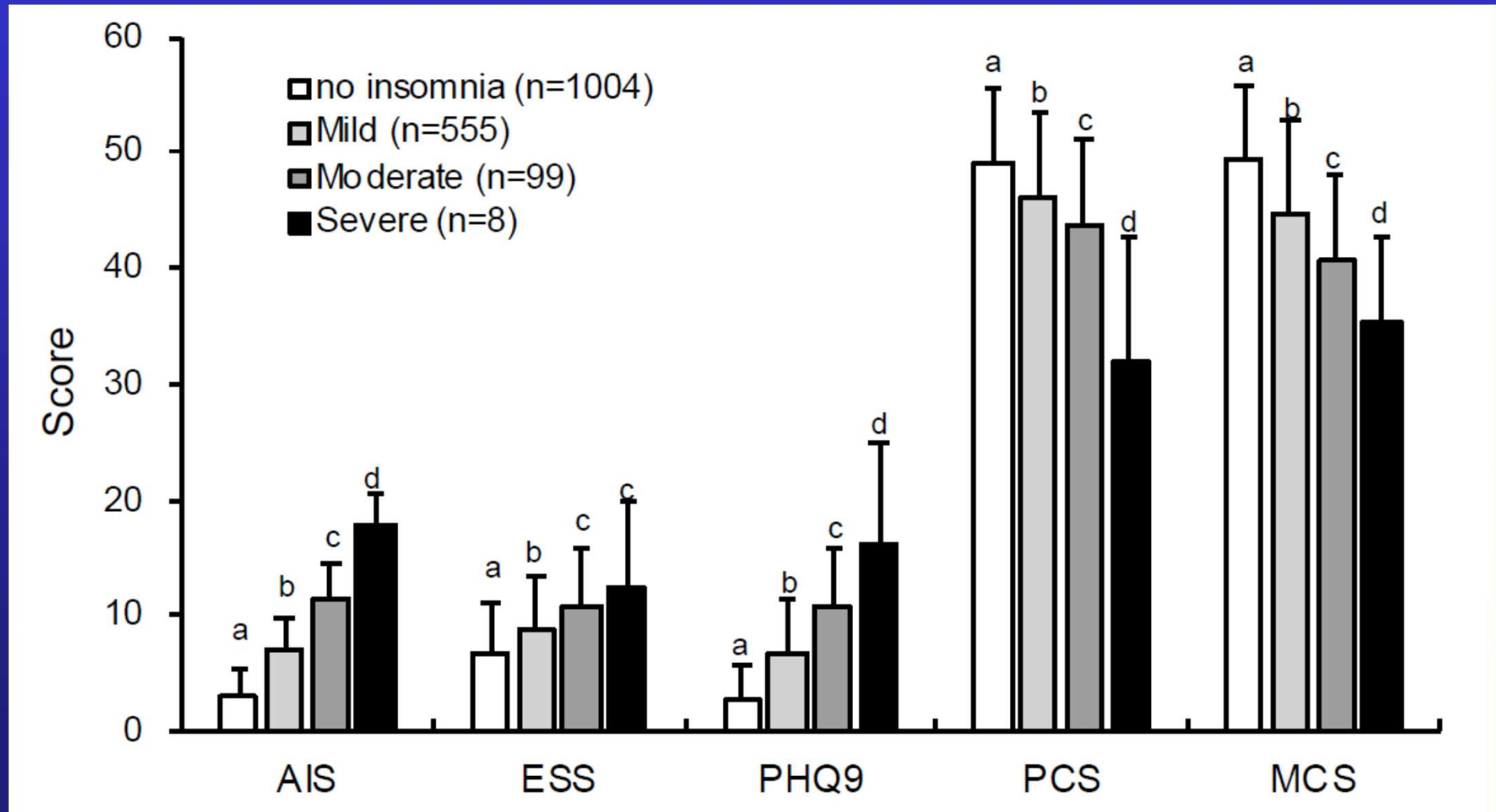
Pittsburg Sleep Quality Index
Cleveland Sleep Habits Survey
Morningness Eveningness Questionnaire
RLS criteria, RLS-RS
STOP Bang, Berlin Questionnaire
Epworth Sleepiness Scale

Montgomery Asberg Depression Rating Scale
Hamilton depression
Zung

STAI Y1 Y2
Hamilton anxiety
Zung anxiety

EQ-5D
HRQOL-14

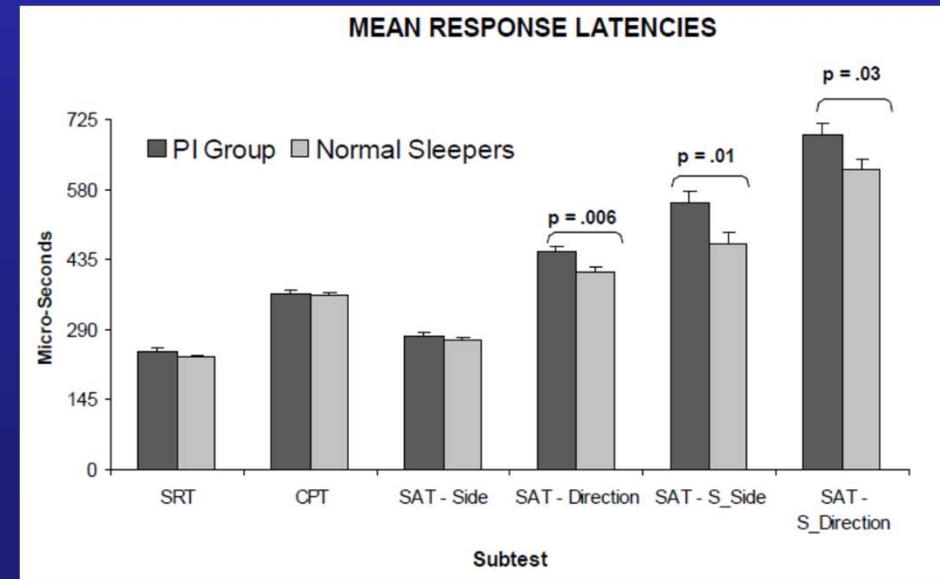
Insomnia severity and QoL





Insomnia severity and attention

MEASURE	PI Group		Normal Sleepers		F =	P =
	Mean	SD	Mean	SD		
PSG						
TIB-Min	462.7	51.5	447.8	51.5	3.40	0.07
TST-Min	369.9	50.9	376.0	52.1	0.58	0.45
SOL-Min	23.0	17.7	20.0	19.8	1.90	0.17
WASO-Min	64.6	37.3	44.8	24.6	17.22	0.0001
SE-%	80.7	8.1	84.9	8.5	13.48	0.0003
Sleep Diary						
TIB-Min	468.5	49.6	452.5	53.5	3.89	0.05
TST-Min	356.5	76.7	394.8	61.8	12.39	0.0006
SOL-Min	40.9	30.2	17.9	13.1	60.58	0.0001
WASO-Min	49.7	43.2	25.9	28.9	19.81	0.0001
SE-%	76.1	13.7	87.2	9.1	45.57	0.0001



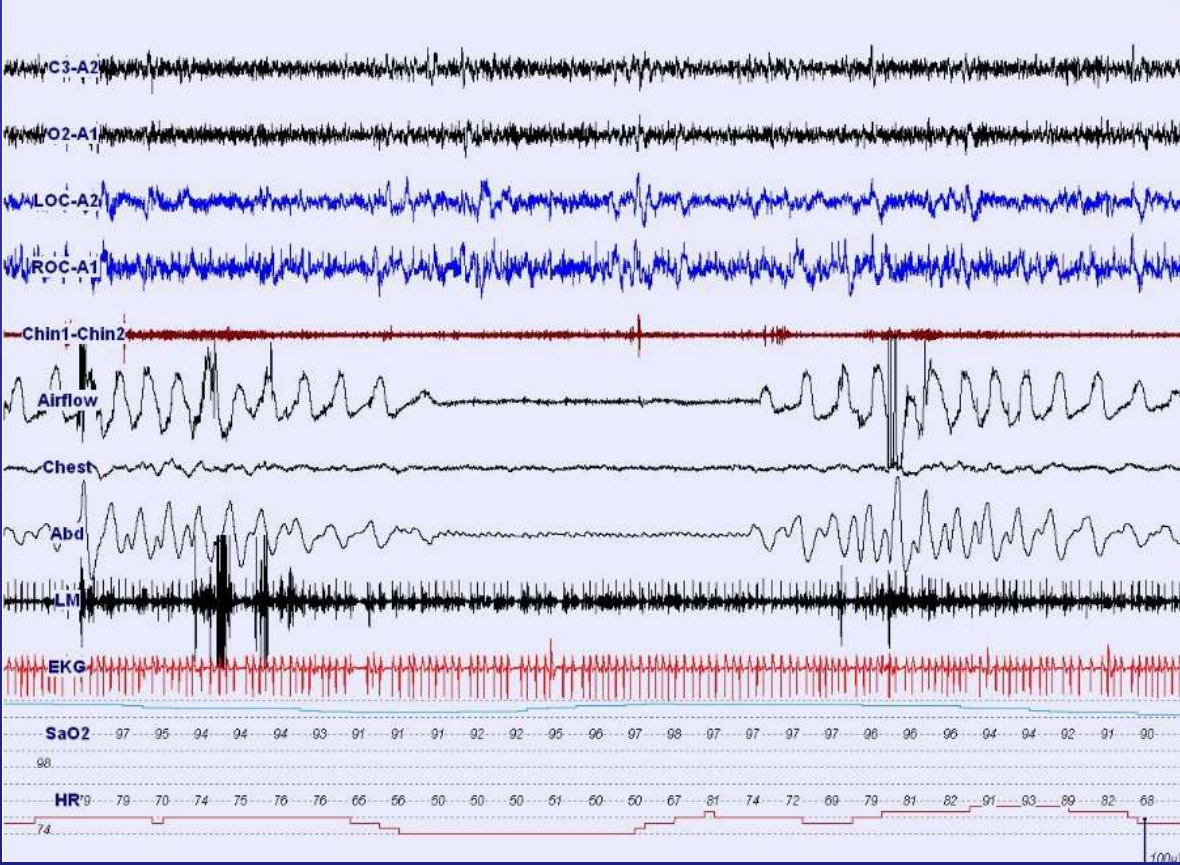


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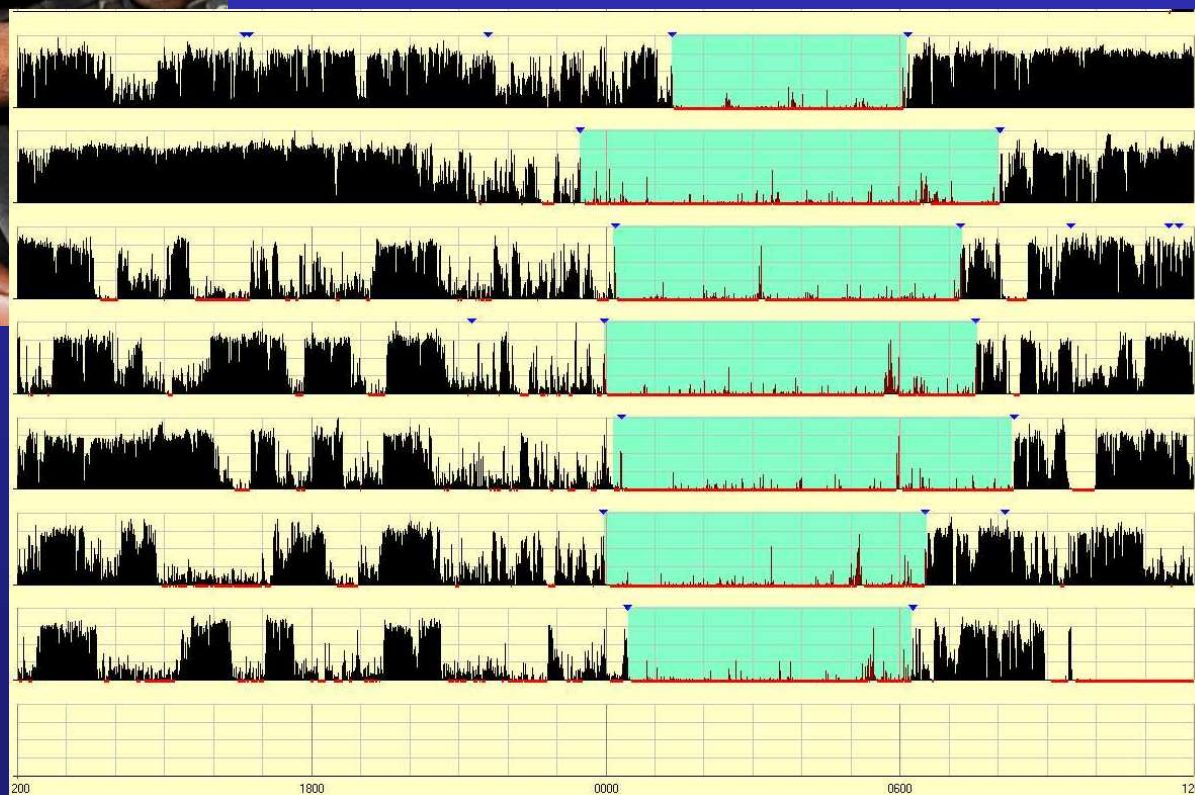
Polisonnografia



Polisonnografia

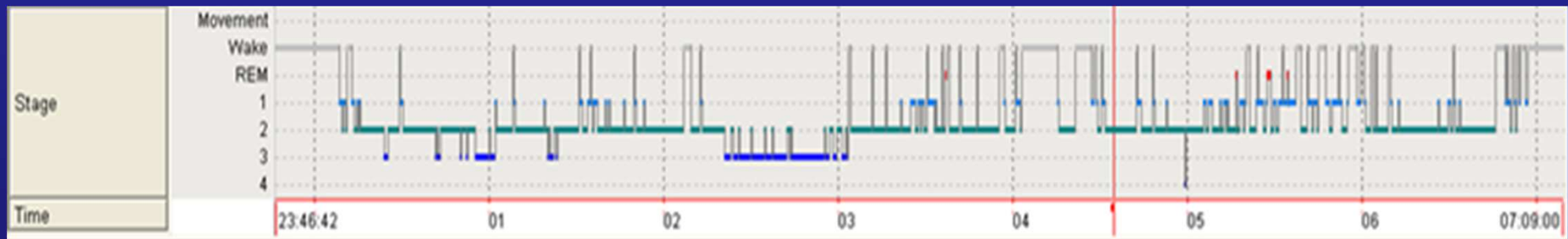
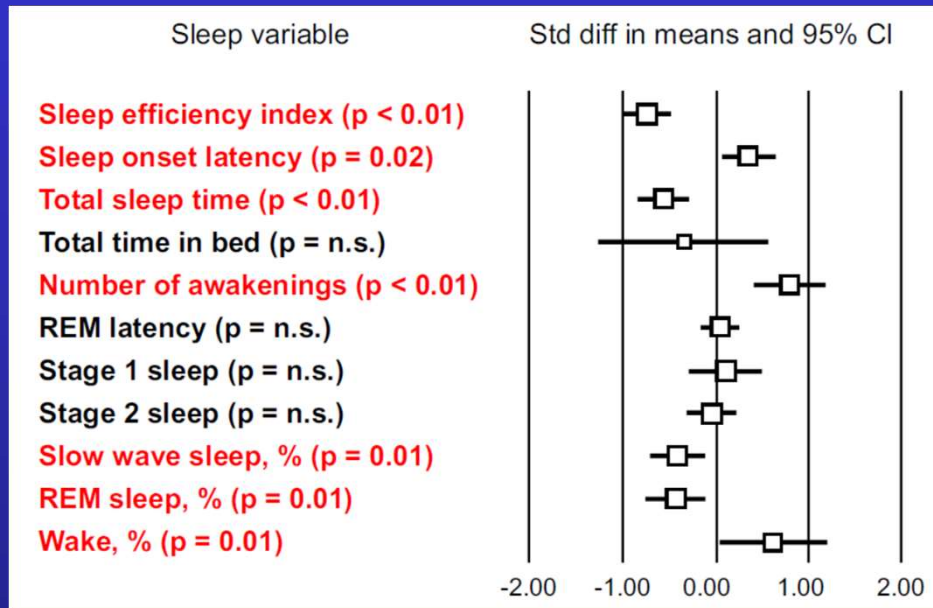


Actigrafia

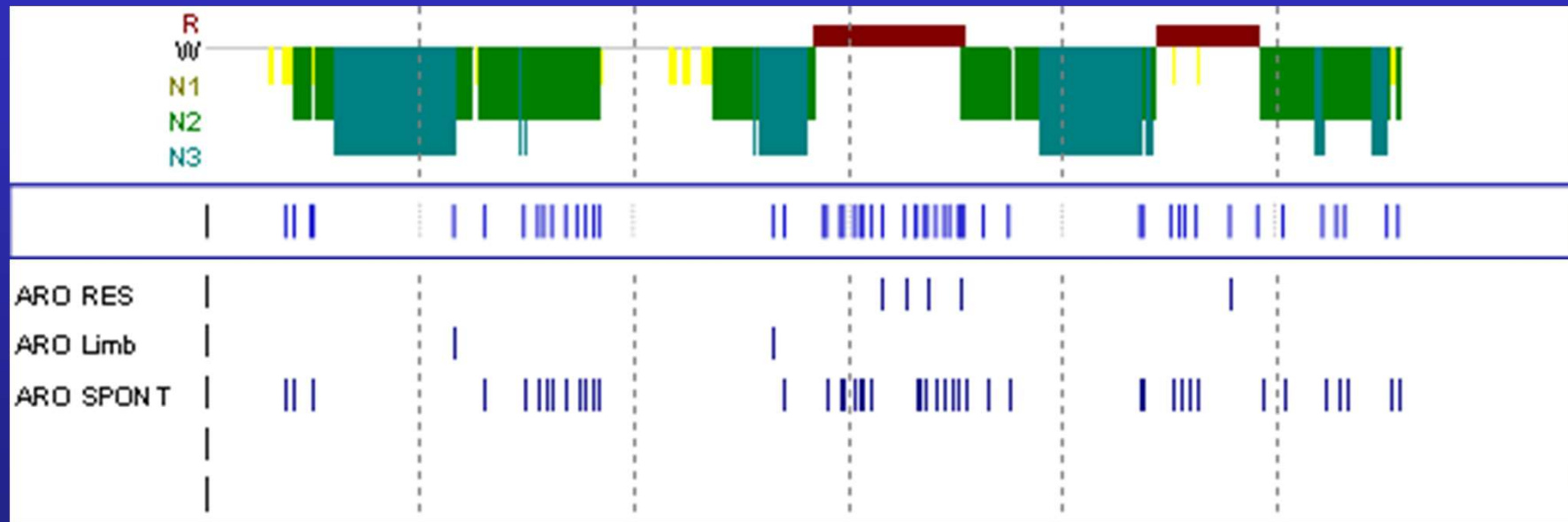




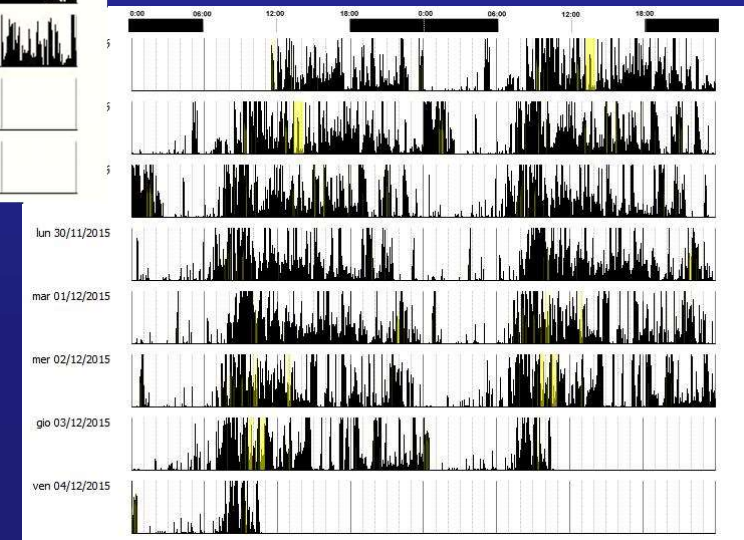
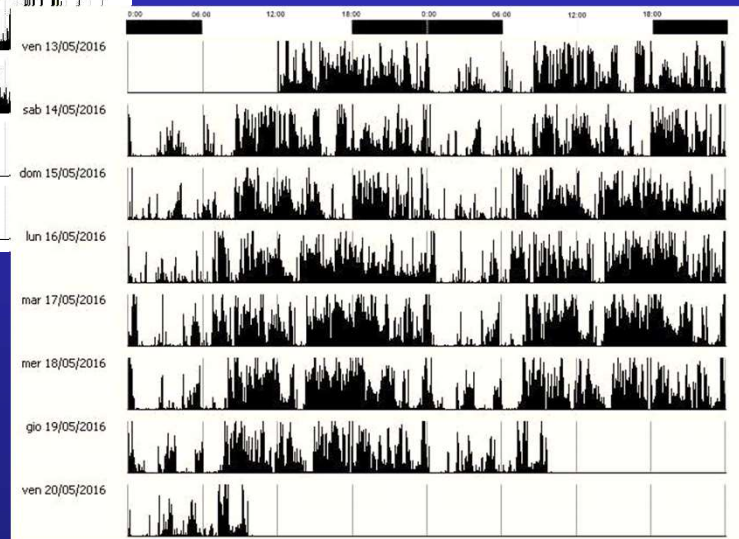
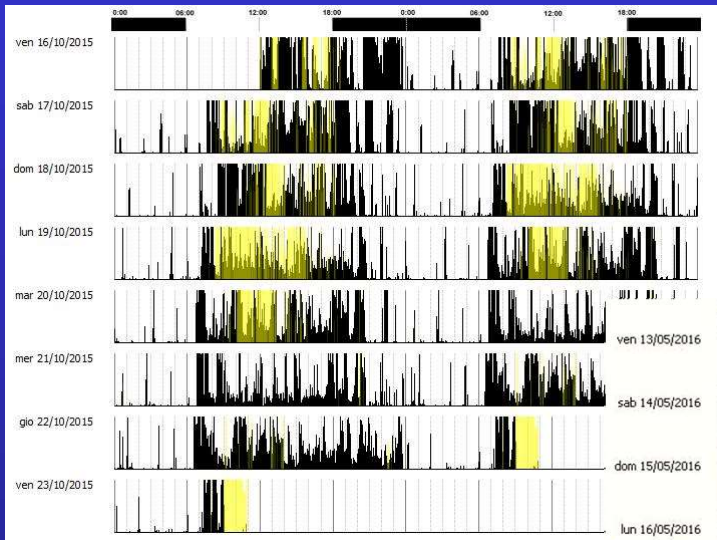
PSG insomnia



PSG: pattern insomnia

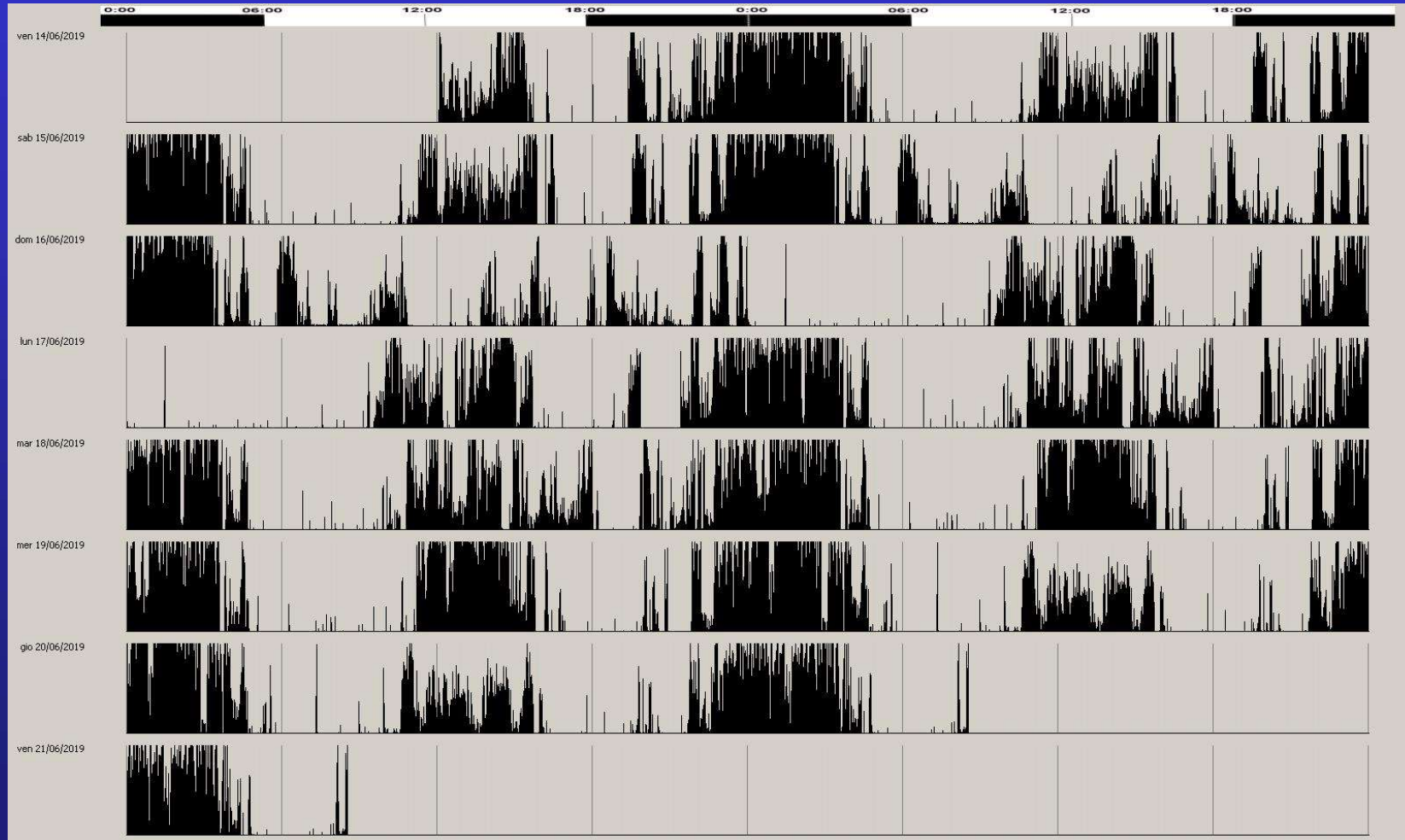


ACT: pattern insomnia

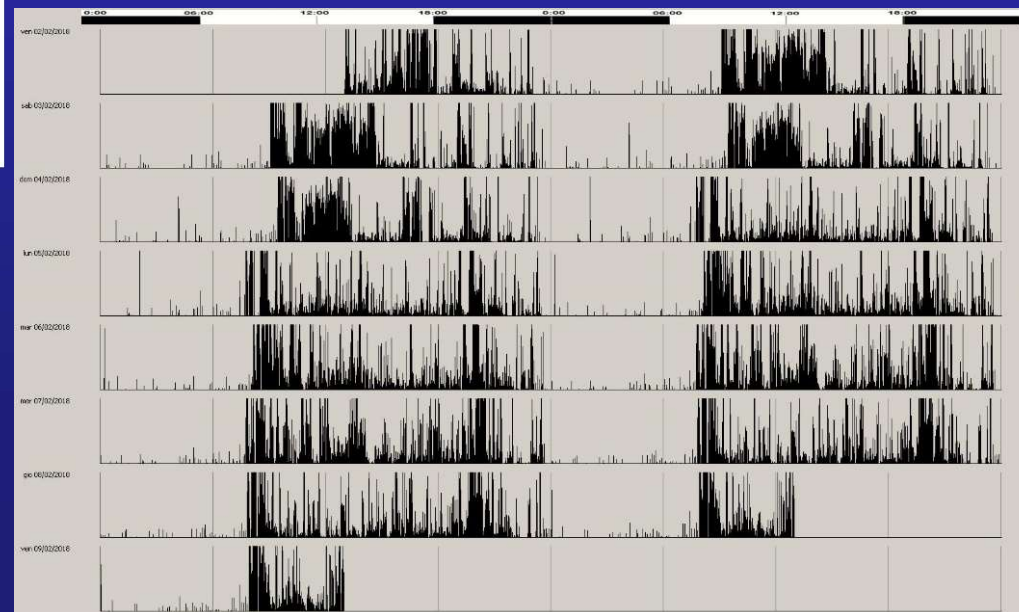
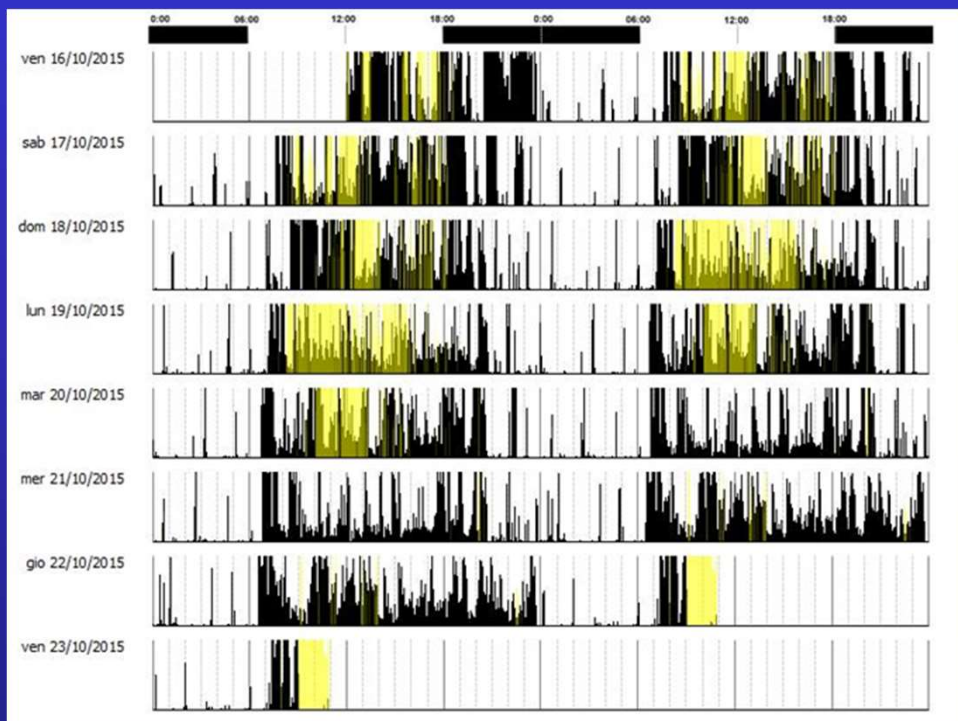




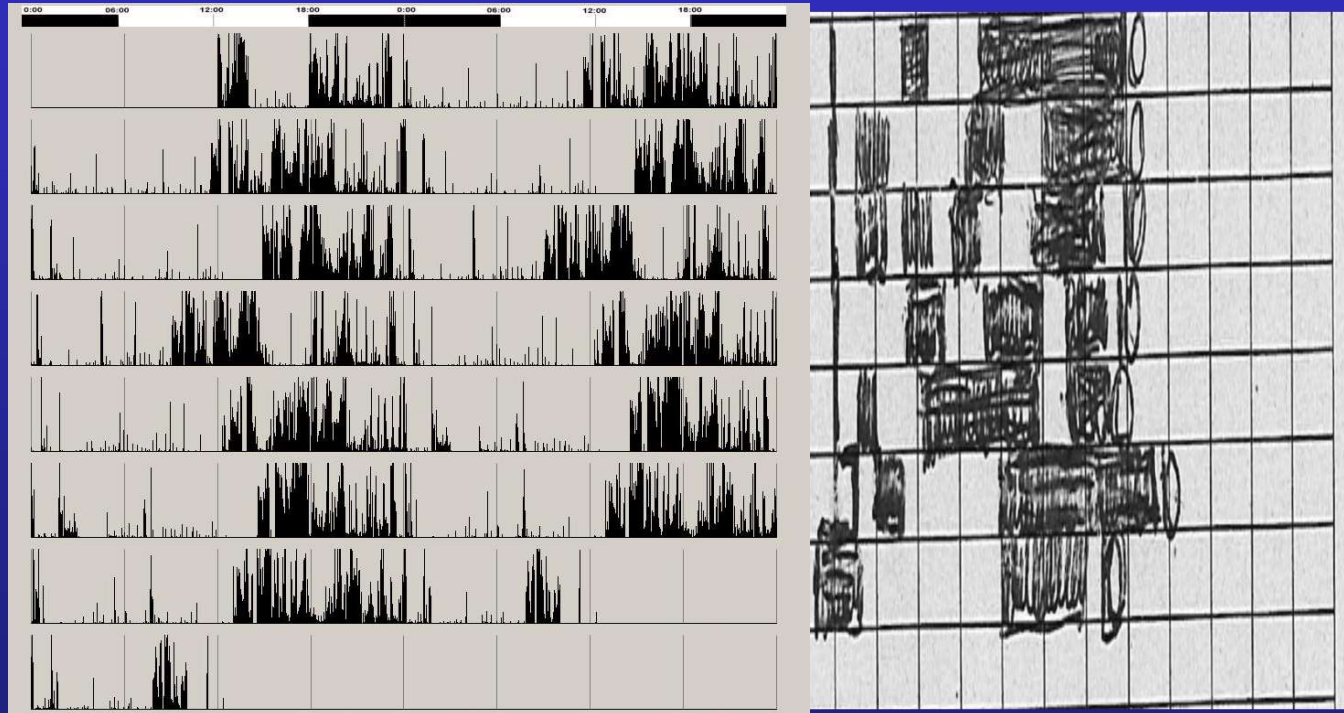
ACT: igiene del sonno



ACT: CBT-i

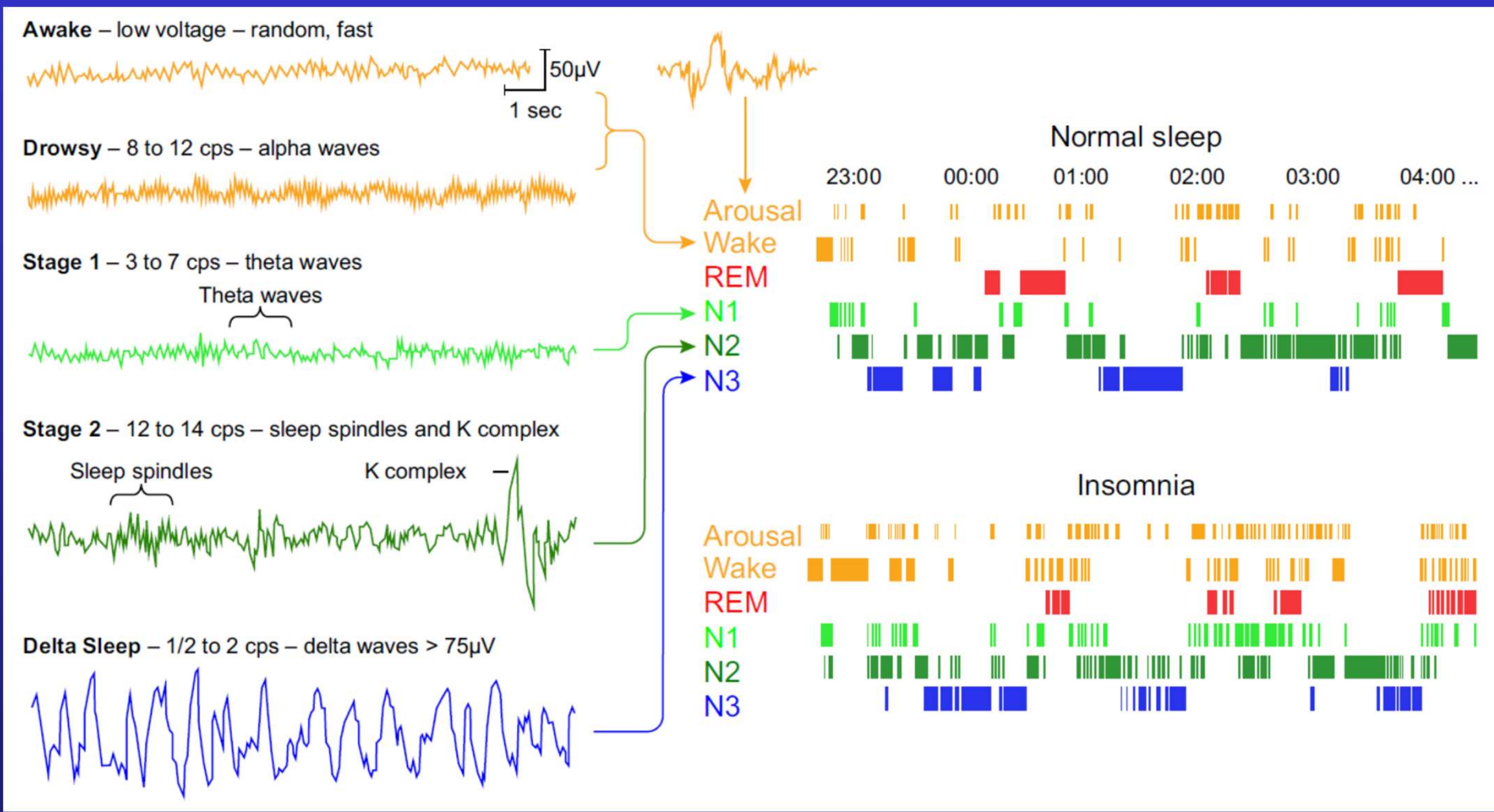


Sleep misperception

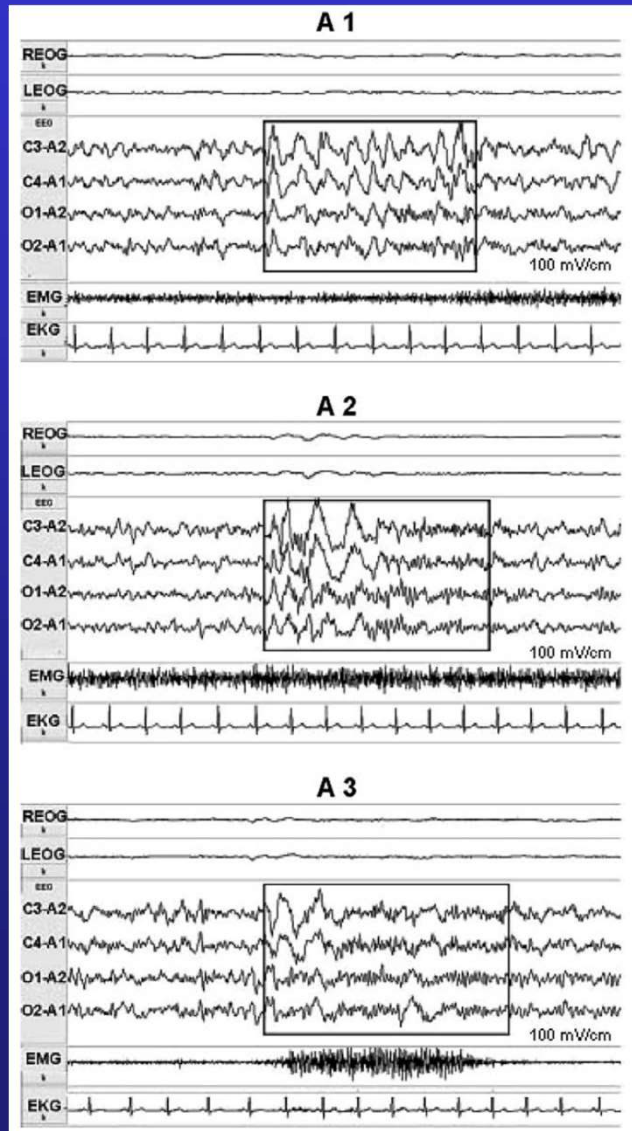




PSG insomnia

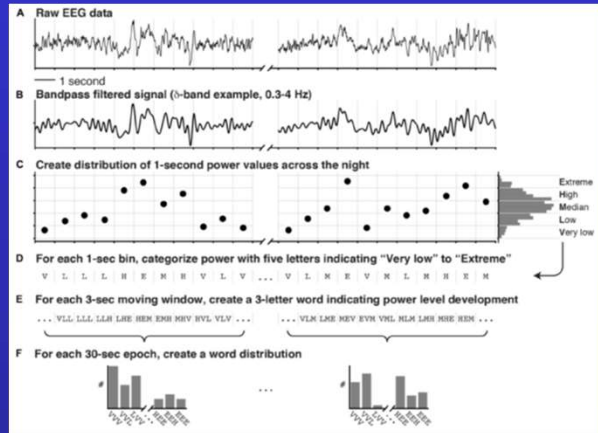


Sleep misperception and CAP



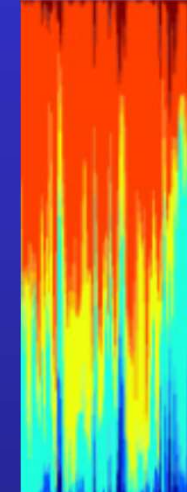
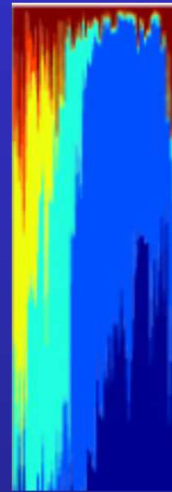
	Controls	Misperceptors	<i>p</i>
<i>Mean (SD) PSG conventional measure</i>			
Total sleep time (min)	464 (24.7)	447 (29.9)	NS
Sleep latency (min)	8 (6)	9 (7)	NS
Awakenings (num)	5 (3)	11 (6)	0.0001
Stage 1/TST (%)	3.1 (1.5)	6.8 (3.5)	0.0001
Stage 2/TST (%)	50.3 (7.5)	56.8 (5.3)	0.003
SWS/TST (%)	22.4 (6.7)	14.2 (5.9)	0.0001
NREM/TST (%)	75.7 (6.7)	77.8 (5)	NS
REM/TST (%)	24.3 (6.7)	22.2 (5)	NS
<i>Mean (SD) PSG CAP and arousal measure</i>			
Arousal index (num/h)	18.6 (5.2)	31.7 (6.45)	0.0001
CAP Rate tot (%)	35.5 (6.6)	58.1 (5.5)	0.0001
CAP Rate S1 (%)	37.5 (18.5)	62.7 (17)	0.0001
CAP Rate S2 (%)	33.2 (8.4)	53.3 (13)	0.0001
CAP Rate SWS (%)	37.2 (7.4)	43.1 (17.5)	NS
CAP rate before subjective sleep onset (%)	45.1 (15.8)	64.4 (21)	0.002
Phases A1 (%)	59 (10)	54 (9.5)	NS
Phases A2 (%)	24 (6)	31 (8)	0.001
Phase A3 (%)	16 (9)	15 (7)	NS

PSG insomnia

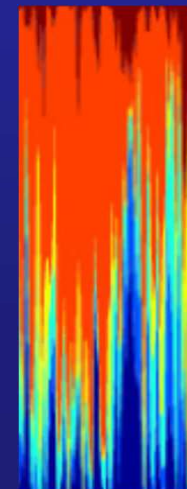
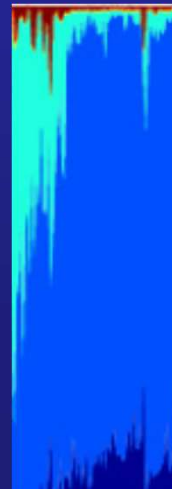
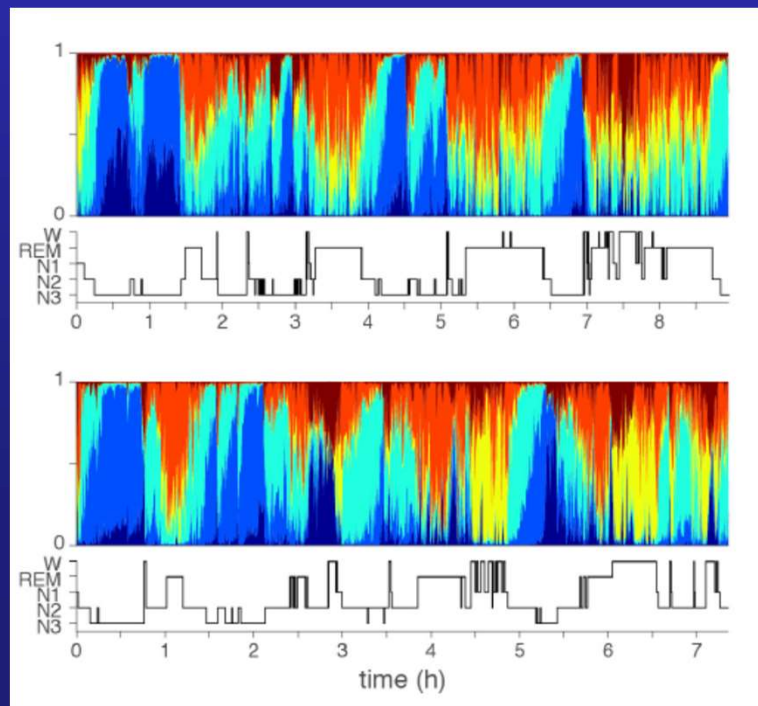


SWS

REM



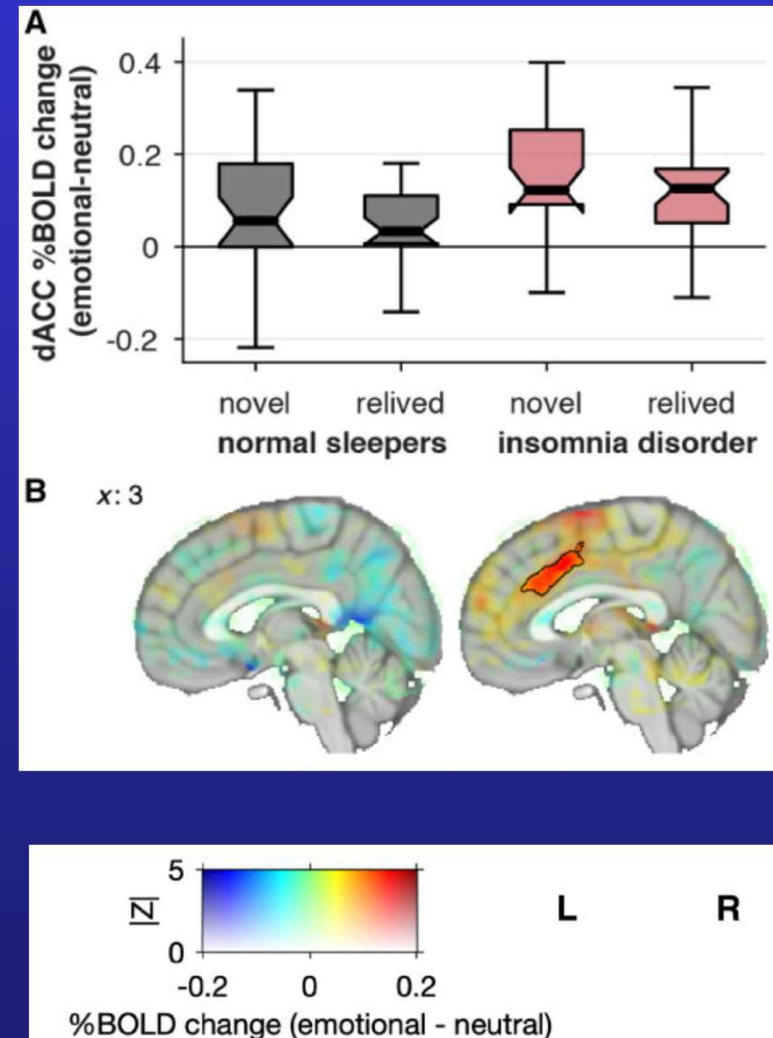
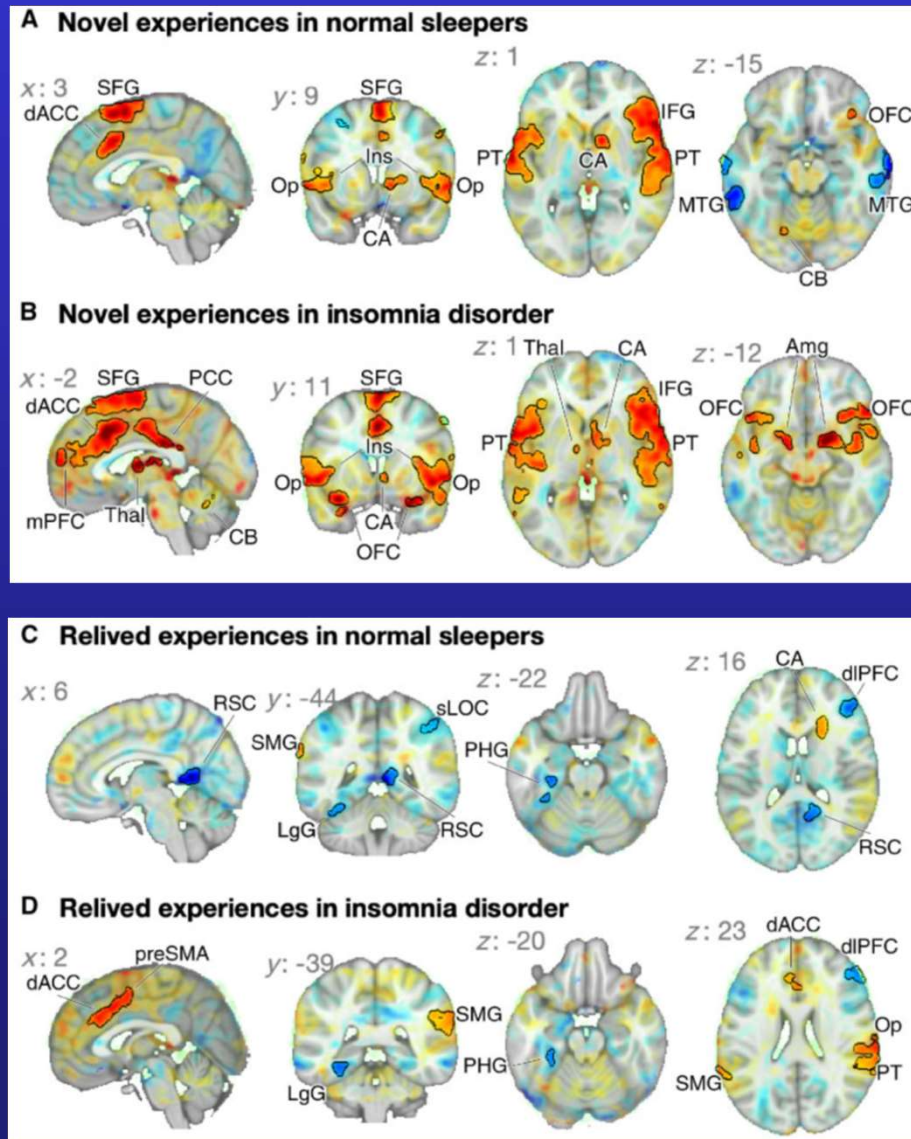
ctrl



insomnia

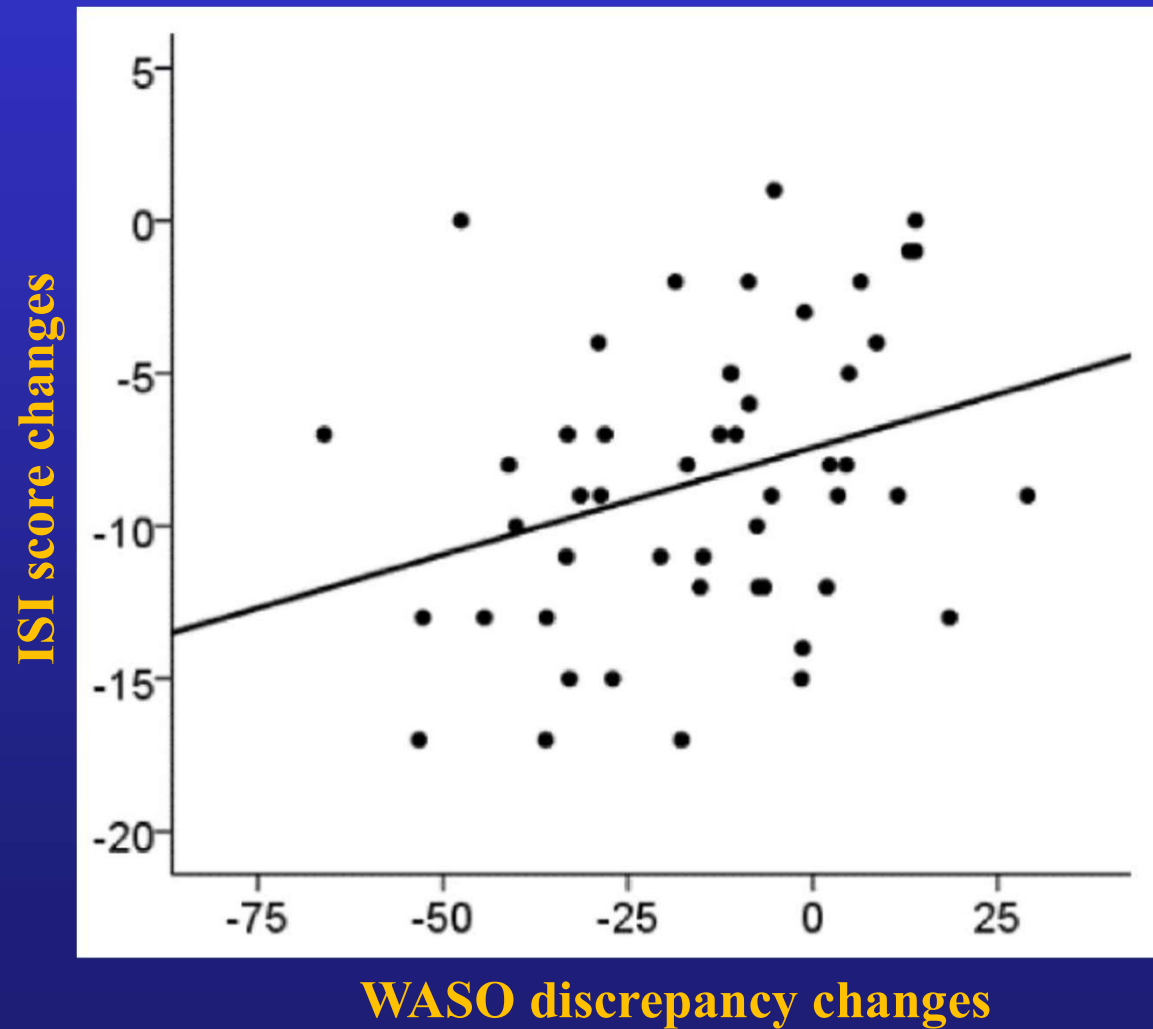


Emotions in insomnia disorder

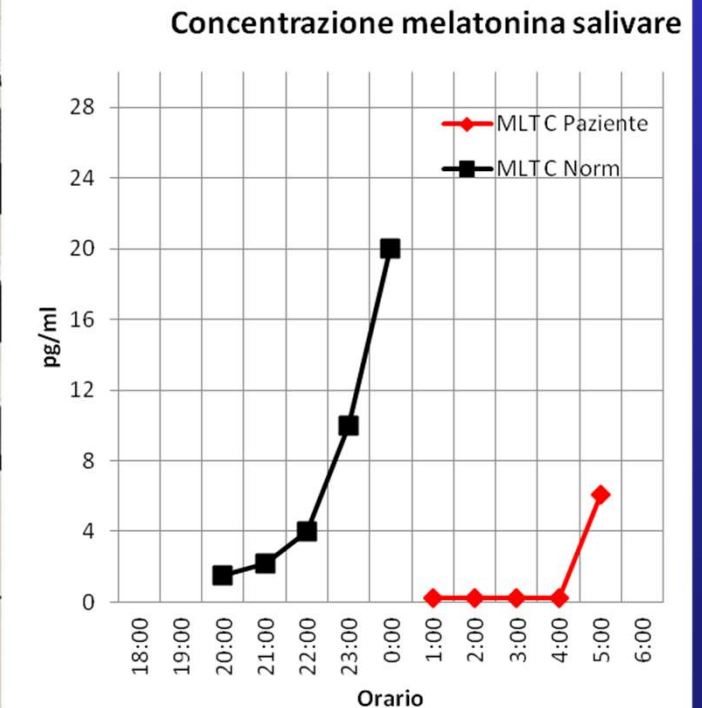
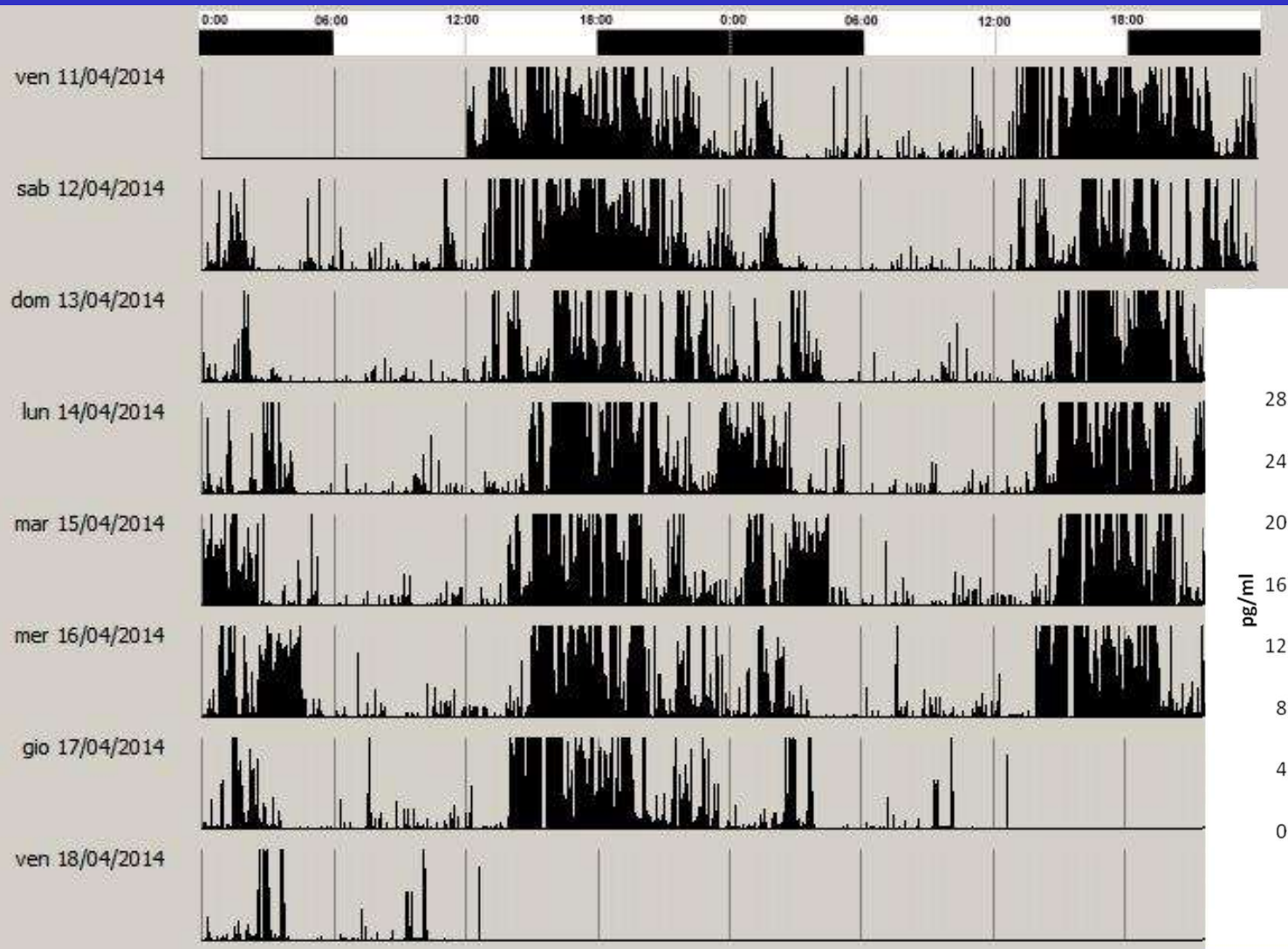




Sleep evaluation discrepancy (obj vs subj)

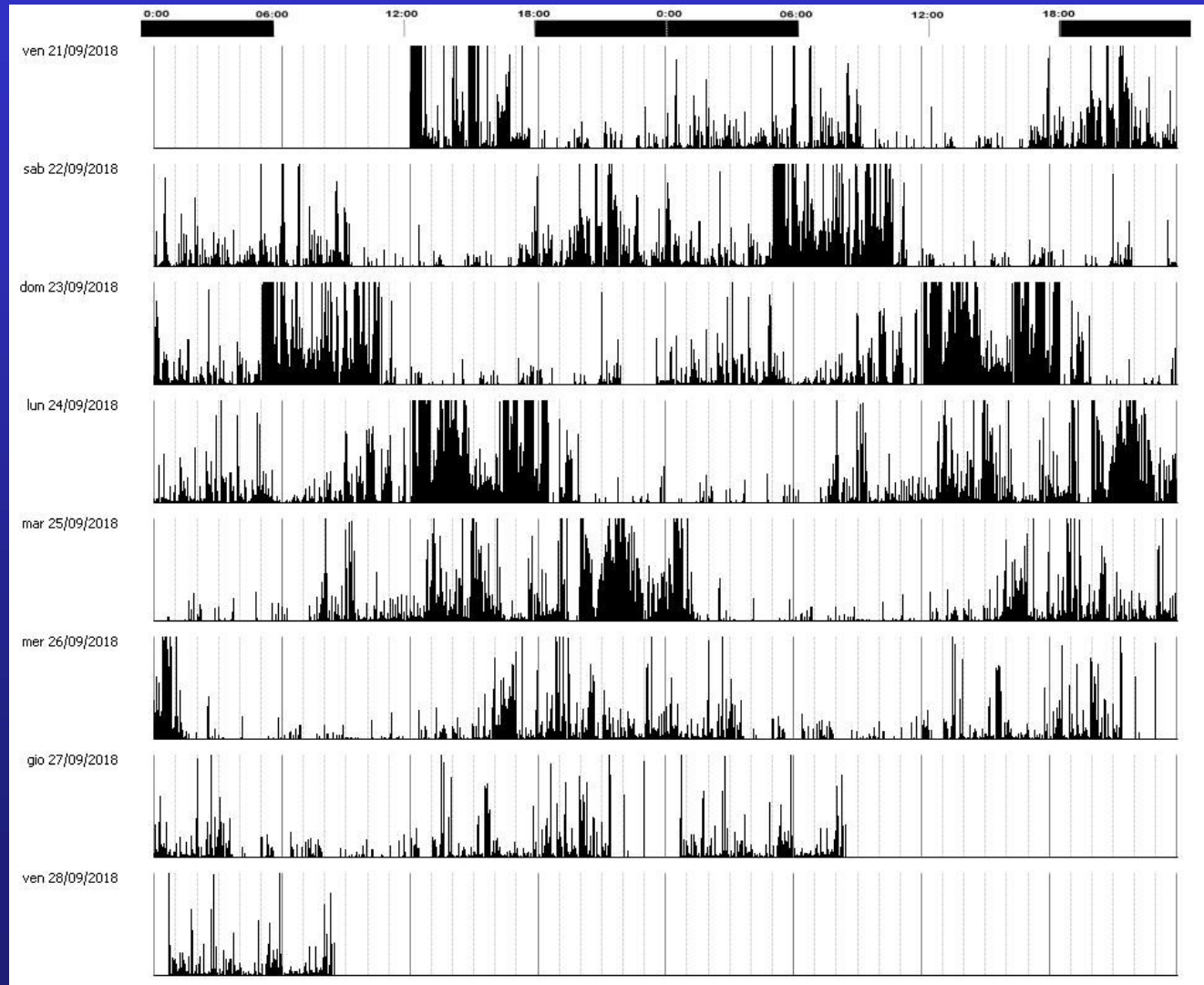


ACT: avanzamento di fase



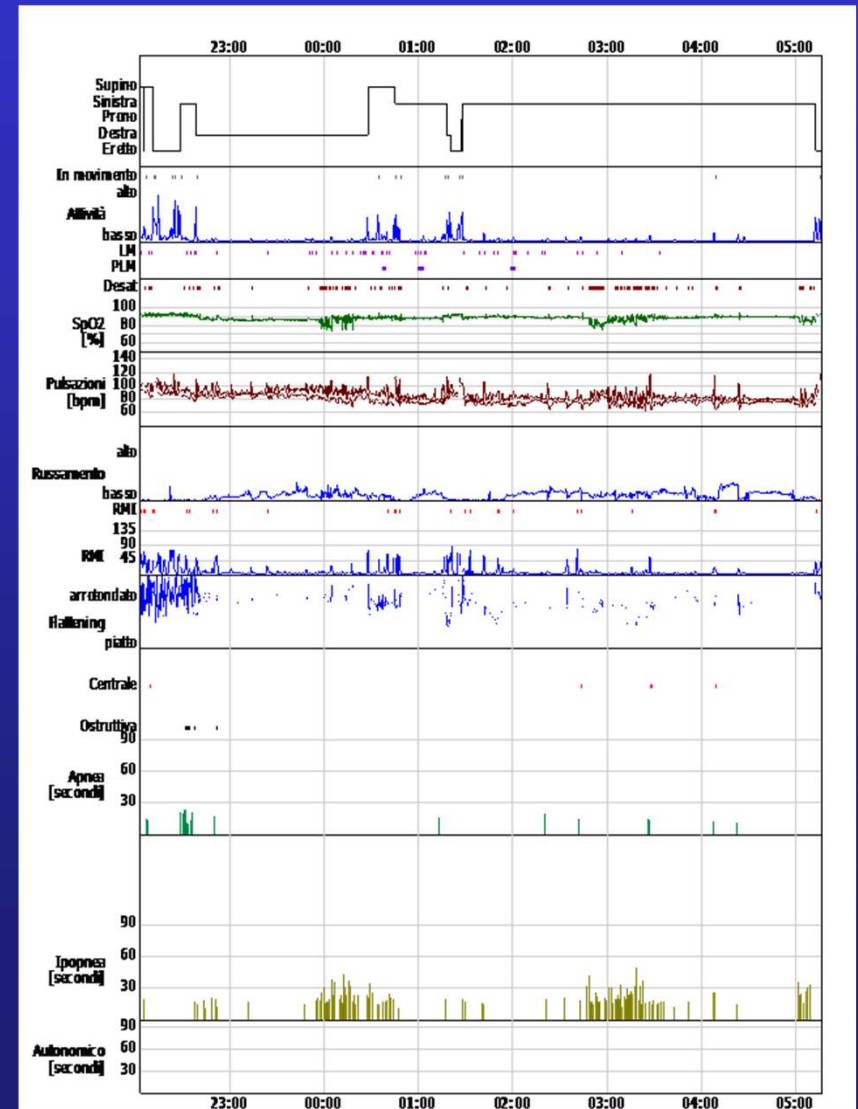
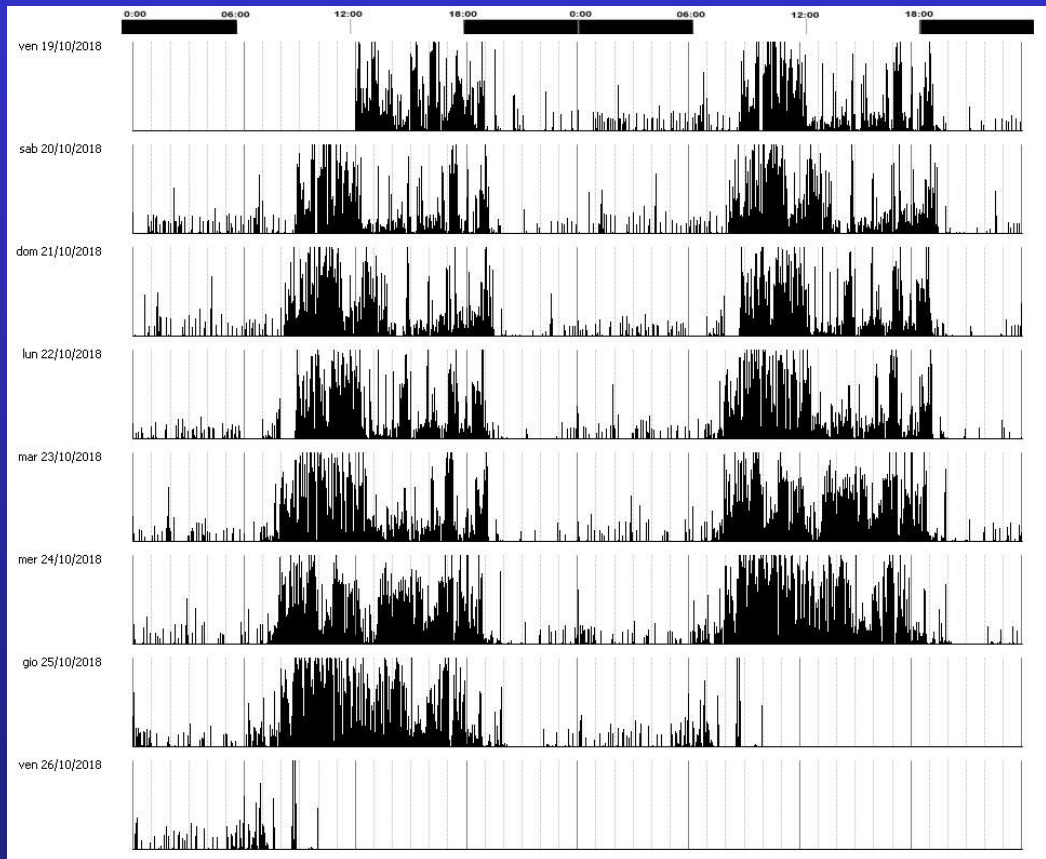


ACT: diagnosi differenziale

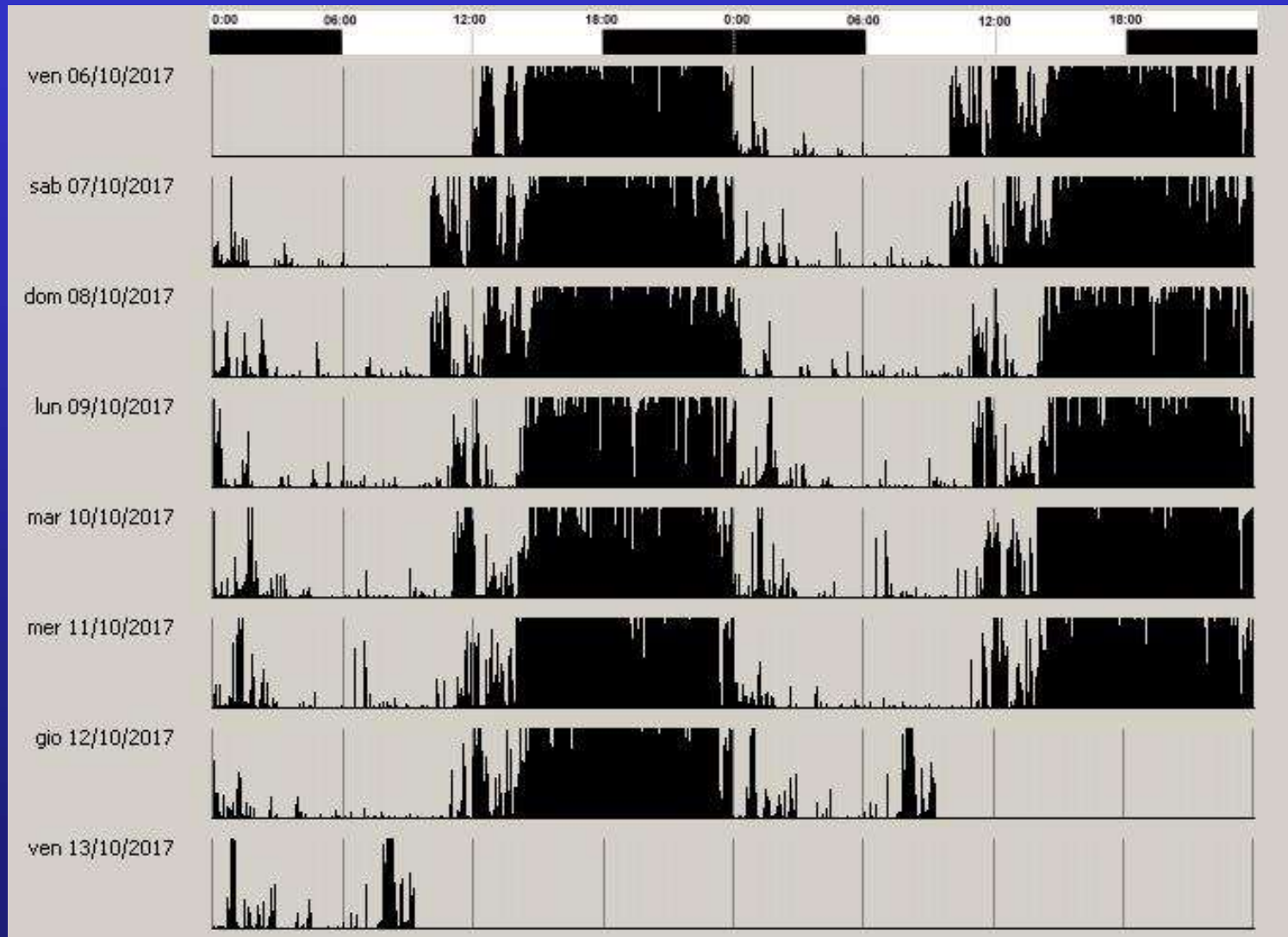




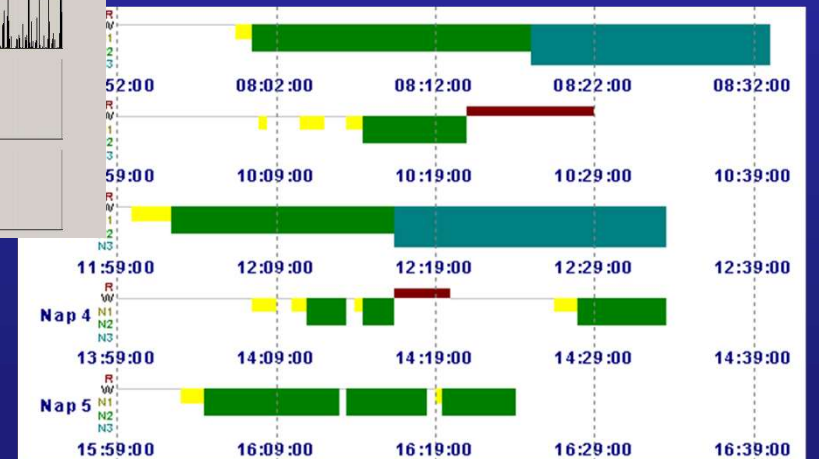
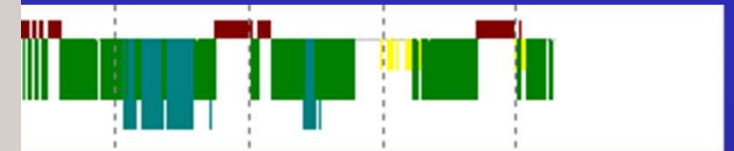
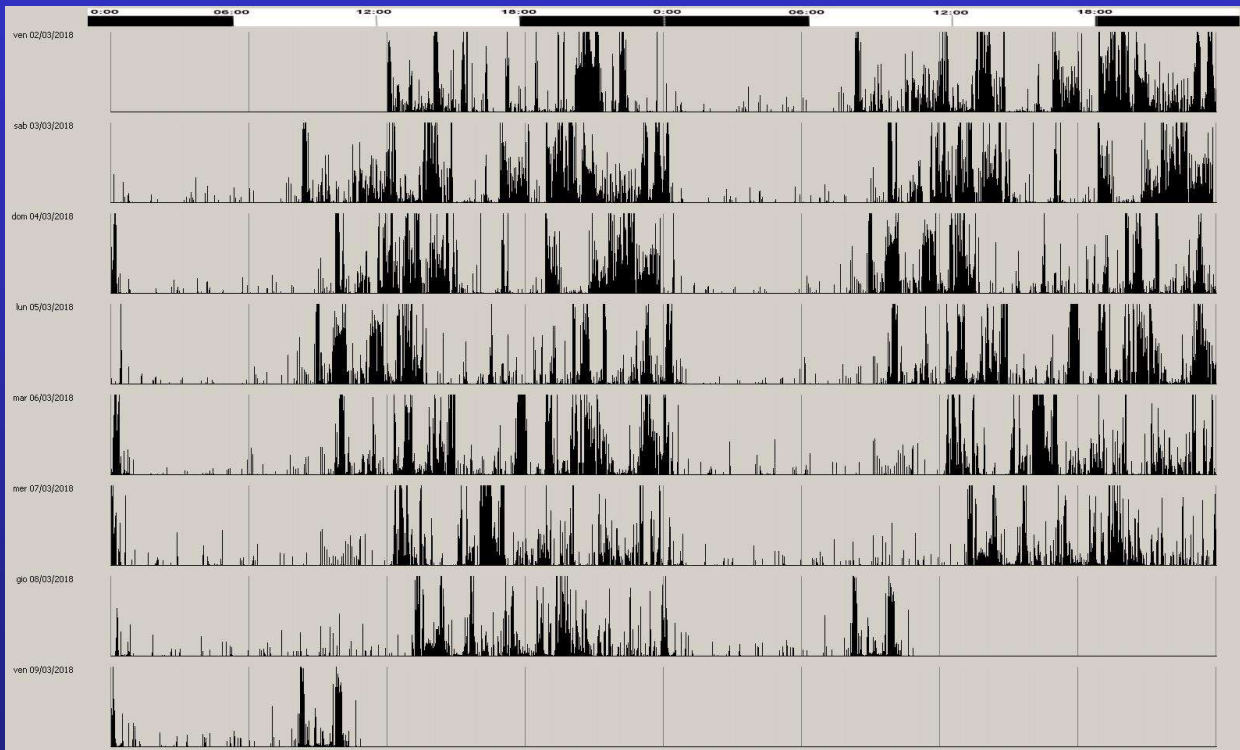
ACT: dist. qualitativi



ACT: disturbi qualitativi



ACT: ipersonnie centrali





PSG: indicazioni nell'insonnia

PRACTICE PARAMETER

Practice Parameters for the Indications for Polysomnography and Related Procedures: An Update for 2005




Clete A. Kushida, MD, PhD¹; Michael R. Littner, MD²; Timothy Morgenthaler, MD³; Cathy A. Alessi, MD⁴; Dennis Bailey, DDS⁵; Jack Coleman, Jr., MD⁶; Leah Friedman, PhD⁷; Max Hirshkowitz, PhD⁸; Sheldon Kapen, MD⁹; Milton Kramer, MD¹⁰; Teofilo Lee-Chiong, MD¹¹; Daniel L. Loube, MD¹²; Judith Owens, MD¹³; Jeffrey P. Pancer, DDS¹⁴; Merrill Wise, MD¹⁵

SLEEP 2005;28(4):499-521

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European insomnia guideline

European guideline for the diagnosis and treatment of insomnia

DIETER RIEMANN¹ , CHIARA BAGLIONI¹, CLAUDIO BASSETTI², BJØRN BJORVATN³ , LEJA DOLENC GROSELJ⁴, JASON G. ELLIS⁵, COLIN A. ESPIE⁶, DIEGO GARCIA-BORREGUERO⁷, MICHAELA GJERSTAD⁸, MARTA GONÇALVES⁹, ELISABETH HERTENSTEIN¹, MARKUS JANSSON-FRÖJMARK¹⁰, POUL J. JENNUM¹¹, DAMIEN LEGER¹², CHRISTOPH NISSEN^{1,2,13}, LIBORIO PARRINO¹⁴ , TIINA PAUNIO¹⁵, DIRK PEVERNAGIE¹⁶, JOHAN VERBRAECKEN¹⁷, HANS-GÜNTER WEEß¹⁸, ADAM WICHNIAK¹⁹, IRINA ZAVALKO²⁰, ERNA S. ARNARDOTTIR^{21,†}, OANA-CLAUDIA DELEANU^{22,†}, BARBARA STRAZISAR^{23,†}, MARIELLE ZOETMULDER^{24,†} and KAI SPIEGELHALDER¹



PSG: indicazioni nell'insonnia

Actigraphy

- **In case of clinical suspicion of irregular sleep–wake schedules or circadian rhythm disorders ***
- **To assess quantitative sleep parameters**

Polysomnography

- **In case of clinical suspicion of other sleep disorders like periodic limb movement disorder, sleep apnea or narcolepsy ***
- **Treatment-resistant insomnia ***
- **Insomnia in occupational at-risk groups, e.g. professional drivers ***
- **In case of clinical suspicion of large discrepancy between subjectively experienced and polysomnographically measured sleep ***

*** strong recommendation**



E. Hopper - Nighthawks, 1942