

A Brief Introduction to Sleep Disturbance Measures

Mathias Basner

„The perfect method would be sensitive, specific, and cost-effective.“



Arousal Degree

Methods

Maximum Arousal

Minimum Arousal

Long Awakenings (>1 min) with
Reoccurrence of Consciousness

Push Button,
Actimetry,
Polysomnography

Short Awakenings (>15 s)
with Body Movements

Actimetry,
Polysomnography

Short Awakenings (>15 s)
w/o Body Movements

Polysomnography

Sleep Stage Changes

Polysomnography

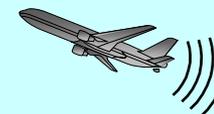
Short (> 3s) EEG Accelerations
with or w/o Sleep Stage Changes

Polysomnography

Vegetative Arousal

RR-measurements,
Pulse Transit Time
ECG

Stimulation of ARAS through internal or external stimuli



Spontaneous Reactions

~1-5 per night

Long Awakenings (>1 min) with Reoccurrence of Consciousness

Methods

Push Button, Actimetry, Polysomnography

~23 per night

Short Awakenings (>15 s) with Body Movements

Actimetry, Polysomnography

Short Awakenings (>15 s) w/o Body Movements

Polysomnography

~120 per night

Sleep Stage Changes

Polysomnography

~100 per night

Short (> 3s) EEG Accelerations with or w/o Sleep Stage Changes

Polysomnography

Vegetative Arousal

RR-measurements, Pulse Transit Time ECG

Stimulation of ARAS through internal or external stimuli

Sleep Disturbance Indicator

Methods

Very specific but not very sensitive



Very sensitive but not very specific

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Actimetry, Polysomnography

Short Awakenings (>15 s) w/o Body Movements

Polysomnography

Sleep Stage Changes

Polysomnography

Short (> 3s) EEG Accelerations with or w/o Sleep Stage Changes

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Polysomnography \$\$\$

Sleep Stage Changes

Polysomnography \$\$\$

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Stimulation of ARAS through internal or external stimuli

