

## 수면제 사용의 최신지견

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### 순서

- 불면증의 정의와 진단
- 불면증의 원인
- 불면증의 약물 치료
- 맺음말



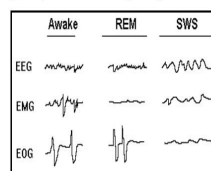
### 불면증의 정의



### SLEEP STAGES AND CYCLE

### 수면의 구조

- Non-rapid eye movement (NREM)
  - Stage 1 – light sleep
  - Stage 2 – light sleep
  - Stage 3/4 – deep, slow wave sleep (SWS)
- Rapid eye movement (REM)



brain electrical activity (EEG), eye movement (EOG) and muscle tone (EMG)

Bae & Foldvary-Schaefer, 2005

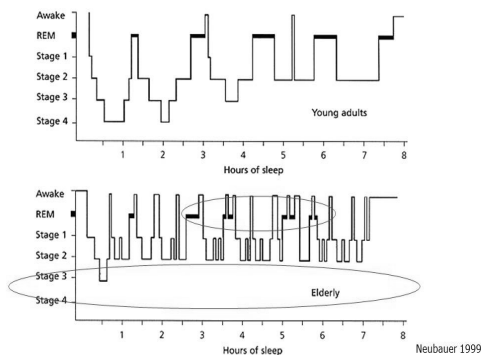
## SLEEP STAGES AND THEIR FUNCTION

- Non-rapid Eye Movement (NREM)
  - Stage 1: transition to sleep
    - 5% total time
  - Stage 2: 50% total time
  - Stages 3 and 4: slow-wave sleep
    - 10-20% total sleep time
    - Restful and restorative sleep achieved here
- Rapid Eye Movement (REM)
  - 20-25% total sleep time

## SLEEP CYCLE AND ARCHITECTURE

- Normal, healthy people;
  - Start with NREM 1 then NREM 2, 3, 4, 3, 2, and then REM.
- Cycle repeats at 90-120 minute intervals
- Total cycle repeats 3-4 times a night
- NREM 3 and 4: more prominent in first half of the night, and decrease later on.
- REM: less prominent in the early night, and increases as the night progresses

### THESE STAGES ALTERNATE DURING THE NIGHT IN A PERIODIC MANNER: YOUNG VS. OLDER ADULTS



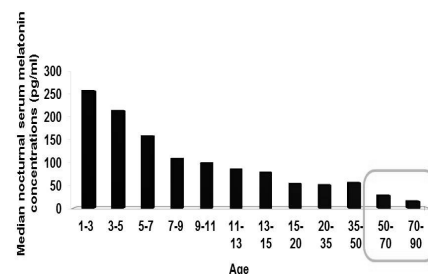
### 노인 수면의 특징

1. 노인에서 Process C와 S의 변화
  - Process C (circadian clock)
    - ↓ amplitude of the circadian component
  - Process S (이전 수면-각성의 양)
    - 수면유지능력 감소
    - ↓ EEG activity in the sigma range (13-17Hz; sleep spindles)
    - 일찍 졸리고, 수면이 분절되고, 낮잠 증가
2. 특정 수면 장애 증가 (RLS, PLMS, Sleep apnea)
  - RLS: Restless legs syndrome
  - PLMS: Periodic limb movements during sleep

### 노인 수면의 특징

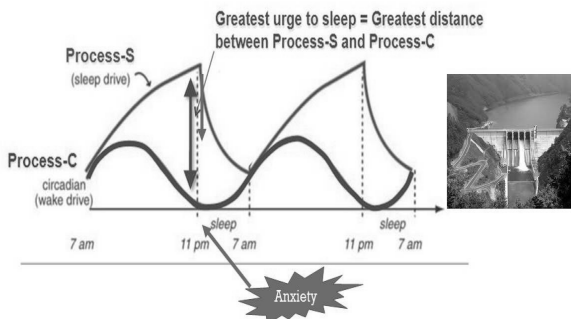
- 잠들기가 어려움
- 수면구조
  - ↓ Sleep efficiency
  - Wake after sleep onset ↑
  - Stage 1 sleep ↑
  - ↓ Slow wave sleep (3,4단계)
- Nocturnal awakenings ↑
- Sleep latency ↑ (light out ~ sleep onset)
- Early morning awakening
- Daytime drowsiness

### MELATONIN SECRETION DECREASES AS A PERSON AGES

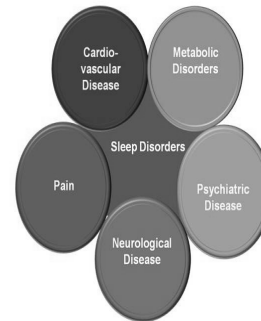


## 수면을 결정짓는 요소

- Process C - circadian rhythm
- Process S - homeostasis



## Sleep is a Vital Process



How Much Sleep Do We Really Need?, National Sleep Foundation

## 수면이 중요한 이유

인생의 1/3을 차지하며, 정신과 육체의 휴식과 회복에 중요

### NREM Sleep is vital

- Recovery of energy
- Temperature regulation
- Blood pressure regulation
- Metabolic regulation (insulin resistance)
- Secretion of GH
- Activation of immune function

### REM Sleep is essential

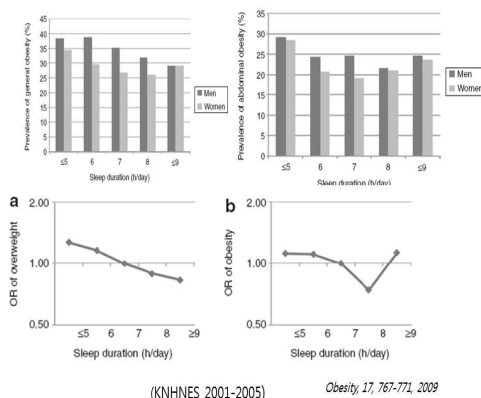
- Memory consolidation and extinction
- Mental functioning
- Mood
- Processing of information

Principles and Practice of Sleep medicine, Kryger, M.H., Roth, T., and Dement W. C.

## Effects of Sleep deprivation

- 
- Irritability
  - Cognitive impairment
  - Memory lapses or loss
  - Impaired moral judgement
  - Severe yawning
  - Hallucinations
  - Symptoms similar to ADHD
  - Impaired immune system
  - Risk of diabetes Type 2
  - Increased heart rate variability
  - Risk of heart disease
  - Decreased reaction time and accuracy
  - Tremors
  - Aches
  - Other:
    - Growth suppression
    - Risk of obesity
    - Decreased temperature

## 수면 시간과 비만



## REAL CONSEQUENCES

- Sleep deprivation (<6 hrs of sleep a night) is an independent predictor of future weight gain AND obesity in women.
- RR=1.32 for gaining >15kg over 16 yrs for those who sleep 5 hrs/night; RR=1.12 for 6 hrs/night when compared against those who slept 7 hrs/night (after adjusting for exercise and caloric intake).

Worcester, Sharon. "Sleep duration, weight gain are linked in women," Family Practice News 36 (15 Oct 2006):44.

## 불면증이란?

다음 중 1가지 이상이 적어도 3회/주, 3개월 이상 지속되면 불면 장애로 진단

- 잠 들기가 쉽지 않다 (prolonged sleep latency)
- 수면을 유지하기가 쉽지 않다 (waking up frequently during the night)
  - > sleep maintenance
- 수면의 질이 낮고, 자고 나도 회복이 되지 않는다 (non refreshing sleep)
- 이러한 증상은 낮 시간의 장애와 (daytime distress) 관련이 있다.

Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV)  
and International Statistical Classification of Diseases 10th Revision (ICD-10)

## SUBJECTIVE DEFINITION

- The **subjective** experience of inadequate or poor quality sleep
- **"I'M UP"**
  - **I** - difficulty **I**nitiating sleep
  - **M** - difficulty **M**aintaining sleep
  - **U** - **U**nrefreshing sleep
  - **P** - **P**remature awakening

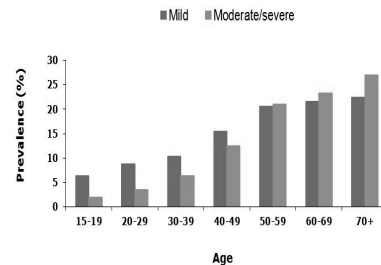
## 불면증의 유병률

가장 흔한 수면 장애

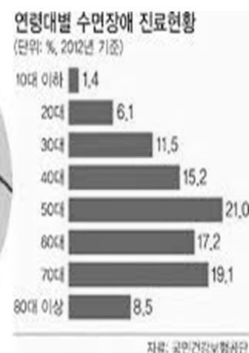
- 성인의 30-45% (약 1/3), 노인의 약 50%, 10%는 만성
- 65%의 약물 처방이 55세 이상에서 이루어 짐
- 일차 진료기관에 방문하는 환자의 20%가 수면 이상 호소
- 환자의 약 2/3가 여성
- 실제보다 적은 수의 환자만이 진단되고 치료를 받고 있음

1. Weyerer S and Dilling H. Sleep 1991. 2. Lemoine et al. J Sleep Res 2007.  
2. Wade A Aging health 2008 4. Weyerer and Dilling, 1991 5. Wryer and Dilling, 1991  
3. Silber MH. Chronic insomnia. N Engl J Med.2005;353:803-810

## 불면증의 연령에 따른 유병률



Weyerer and Dilling, 1991



## 불면증의 진단방법

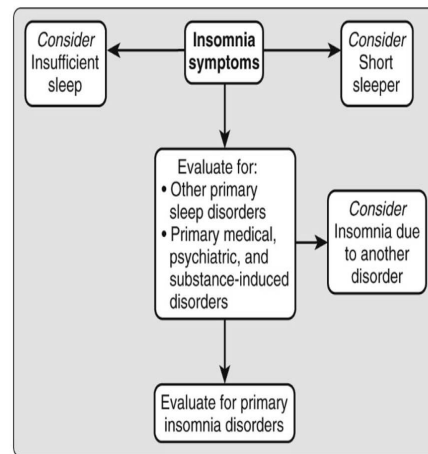
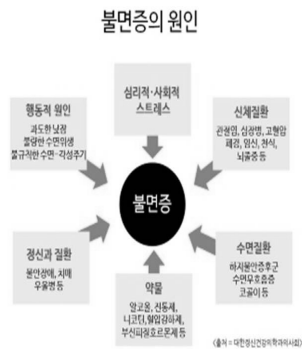
## 불면증 환자에서의 병력 청취

- 병력청취가 진단에서 가장 중요.
- 수면의 양 (Short sleeper, Long sleeper)
- 생활 주기 양상 (Circadian delayed, early), 낮 생활 청취
- 불면증 양상 (Sleep onset, Sleep maintenance)
- 기저의 다른 원인들 파악이 중요: 질환, 약물 등
- 2 차성 질환과의 관련성: RLS, Sleep apnea, Medication
- 정신과적 문제: **Depression, Anxiety**

## SLEEP DIARY

- Most useful
  - prospective monitoring of target behavior
  - 2 weeks optimal
  - Bedtime, time of sleep onset, times and durations of awakenings during the sleep period, final awakening time, nap times
  - Complete every morning!

## 불면증의 원인



## 이차성 불면증의 원인

- 정신과적 이상 (Depression, anxiety, panic disorder)
- 다른 수면 장애 (OSA, PLM)
- 약물 (nicotine, ethanol, caffeine, stimulants, antihypertensives, antiasthmatics)
- 신체 질환
  - Fibromyalgia/chronic pain syndromes
  - COPD/ other respiratory disorders
  - Heart diseases
  - medication (theophylline, beta blockers)

### Psychiatric Conditions

- Mood disorders
- Major depressive disorder
  - Dysthymic disorder
  - Bipolar disorder
  - Seasonal affective disorder
- Anxiety disorders
- Generalized anxiety disorder
  - Posttraumatic stress disorder (nightmares and flashbacks of the trauma while trying to sleep)
- Attention-deficit/hyperactivity disorder
- Eating disorders
- Bulimia nervosa
  - Anorexia nervosa
- Adjustment disorder
- Personality disorder

### Medical Conditions\*

- Comorbid sleep disorders (e.g., sleep apnea, restless legs syndrome, periodic limb movement)
- Neurologic (e.g., headache, stroke, seizure disorders, brain injury, dementia, Parkinson's disease)
- Cardiovascular (e.g., angina, congestive heart failure)
- Reproductive (e.g., pregnancy, menopause)
- Pulmonary (e.g., asthma, emphysema)
- Digestive (e.g., irritable bowel syndrome, peptic ulcer)
- Arthritis and other musculoskeletal disorders
- Endocrine disorders (e.g., diabetes mellitus)
- Nocturia, incontinence, enuresis and other genitourinary disorders

## 수면 시기에 따른 불면증의 원인

Insomnia type	Causes
Sleep onset	Learned or conditioned activation (psychophysiological) Anxiety, including situational, panic disorder Depressive disorders, including major depression Delayed sleep phase syndrome Restless leg syndrome Upper airway resistance Substances, such as caffeine, decongestant
Sleep maintenance	Excessive time in bed Major depression, dysthymia or bipolar disorder Sleep disorder such as OASA, UARS Medical illness, particularly associated with pain
Early awakening	Major depression Advanced sleep phase syndrome Learned or conditioned activation (psychophysiological)

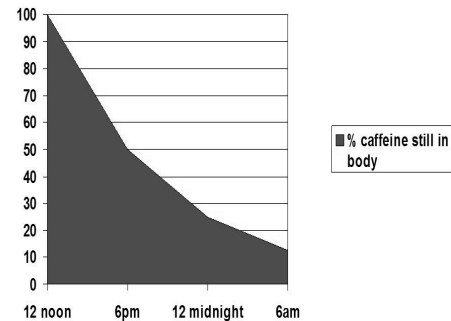
Abbreviations: OASAS, obstructive sleep apnea syndrome; UARS, upper air way resistance syndrome.

## 연령에 따른 불면증의 원인

- 노인 : medical comorbidity, medication use
- 중년 : sharing bed, children interruption, career, family stress
- 젊은 성인 : studying habits, discrepancy between weekdays/weekends



## HALF-LIVES: WHY YOU CAN'T GO TO SLEEP AT 10PM IF YOUR LAST COFFEE WAS AT NOON.



## 객관적 수면 검사

- Polysomnography
  - 수면의 지속적 측정 가능 (하룻밤 ~ 수일)
  - 수면단계의 단계 파악 가능
  - 수면장애진단의 표준검사 (Gold standard)
  - 불면증에는 꼭 시행하지 않음
  - 치료에 반응을 보이지 않는 불면증
- Actigraphy
  - Circadian rhythm sleep-wake disorders



## 불면증의 치료



## 불면증 치료의 목표

- 잘못된 목표 (X)
  - 수면 시간을 늘리는 것
- 올바른 목표 (O)
  - 수면에 계속 집중(selective attention)하고 관찰(monitor)하는 것을 막는다.
  - 수면과 그에 따른 낮의 결과에 대한 왜곡된 지각(distorted perception)을 고친다
  - 수면에 대한 잘못된 믿음(dysfunctional belief)을 고친다.
  - 역기능적인 행동(safety behavior)을 줄인다.
- 목표를 위한 전략
  - 수면제한, 자극조절, 수면위생
  - 약물투약

## 불면증의 인지행동 치료

- 불면증 인지행동치료가 효과를 발휘하는 영역
  - 주로 일차성/정신생리성 불면증에 효과
  - 현재 불면증을 일으키는 기전에 인지행동적 요소가 있는지가 더욱 중요
- 70-80% 가 인지행동 치료에 반응
- 50% 에서는 관해
- 인지행동 치료이후에도 치료효과가 잘 유지됨
- 하지만, 많이 사용되지는 않음

## 불면증의 만성화와 악순환

- 일과성 불면
    - 불면에 대한 걱정
    - 부정적인 생각, 정서적 고통
    - 수면 위협 인자에 대해 집중하고 관찰
    - 교감신경계 각성
    - 불면과 그 결과에 대해 과대 평가
    - 역기능적인 행동 강화
    - 수면에 대한 잘못된 믿음 강화
    - 불면에 대한 걱정
- (순서는 바뀔 수 있음)

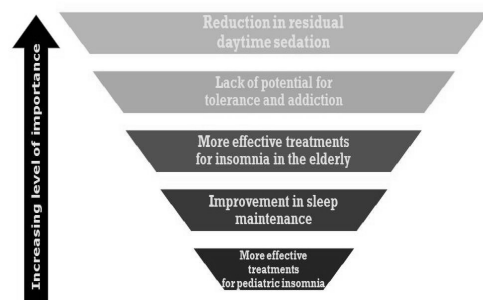
## SLEEP HYGIENE EDUCATION

- 낮잠을 피하라
- 일정한 시간에 기상 후 햇빛에 노출
- 수면 시간에 임박해서는 자극적인 활동 및 생각을 피하라
- 카페인, 알코올, 니코틴은 삼가
- 밤늦은 운동은 삼가
- 잠들기 2시간 전에 따뜻한 물로 샤워
- 과식 및 과음은 삼가 (우유, 간단한 음식 정도는 허용)
- 침실의 소음, 빛 통제, 적절한 온도유지

## 불면증의 약물 치료



## Key Clinical Unmet Needs in Insomnia



Data Monitor

## PRESCRIPTION MEDICATIONS APPROVED BY FDA

- Short term use
  - Benzodiazepines
    - flurazepam (dalmadorm), triazolam (halcion), estazolam, temazepam
  - Benzodiazepine R agonist
    - Zolpidem (stilnox)
    - Zopiclone (imovane)
    - Zaleplon (sonata)
- FDA approved
  - 장기사용 가능
  - Zolpidem extended-release; latency
  - Eszopiclone (lunesta); maintenance
  - Ramelteon (rozerem); latency

## Benzodiazepines

**GABA<sub>A</sub>** ( $\gamma$  aminobutyric acid<sub>A</sub>) 수용체에 작용, 진정, 수면, 근육이완, 항불안 효과

- Many end in "pam" or "lam"
  - Anxiolytic or/and Anticonvulsant
  - clonazepam (Rivotril)
  - lorazepam (Ativan)
  - diazepam (Valium)
  - alprazolam (Xanax)
  - triazolam (Halcion)
- Sleep induction & Total sleep time ↑  
수면 각성을 감소  
 ➡ (sleep stage 2 만 증가, stage 3, 4, REM sleep 은 감소)  
**Good for PLMD, RLS**  
**Bad for Sleep apnea, snoring.**

## Triazolam (Halcion)

- Commonly Prescribed for
  - **'Short-term' treatment of insomnia**
  - Catatonia

Rebound insomnia when withdrawing from long-term treatment

Many patients cannot tolerate 0.5 mg dose (e.g., developing anterograde amnesia)

Triazolam should generally not be prescribed in quantities greater than a 1-month supply

## Pros and Cons of BDZ

- Enhance sleep
- Decrease anxiety
- Muscle relaxant
- Sedation, fatigue, depression
- Dizziness, ataxia, slurred speech, weakness => Fall down ↑
- Forgetfulness, confusion
- Hyperexcitability, nervousness
- Risk of dependence, tolerance (6개월 이상 시), withdrawal (rebound insomnia)
  - d/t long-term adaptations
- Rare hallucinations, mania
- Rare hypotension
- Hypersalivation, dry mouth

## Non-benzodiazepine hypnotics (Z-drug)

- \* alpha 1 isoform selective agonist of GABA-A/ benzodiazepine receptors
- 소실 반감기가 짧고 활성대사물질이 없거나 미약해서 다음날 약물의 잔류효과가 적음
- 6-12개월까지 사용한 경우가 있으나 현재는 장기치료제로 권유되지는 않음
- Cytochrome P450 (CYP3A4) 간 효소에 의해 대사

- zolpidem (Ambien, Stilnox)
- zolpidem ER (Ambien CR, Stilnox CR)
- zaleplon (Sonata)
- zopiclone (Imovane)

경구용액제(Zolpimist)과 설하경도 있으나 국내에는 없음

## Zolpidem (Ambien, Stilnox)

- Commonly Prescribed for
  - **Short-term treatment of insomnia** (controlled-release indication is not restricted to short-term)
  - As needed for the treatment of insomnia when a middle-of-the-night awakening is followed by difficulty returning to sleep and there are at least 4 hours of bedtime remaining before the planned time of waking (Intermezzo; 졸피렘 설하정)
  - $\alpha 1$  수용체에 선택적이므로 근육이완이나 운동실조 효과는 더 적고, 진정수면 효과는 강하다
- Best Augmenting Combos for Partial Response or Treatment Resistance
  - Generally, best to switch to another agent
  - Trazodone
  - Agents with antihistamine actions (e.g., diphenhydramine, tricyclic antidepressants)



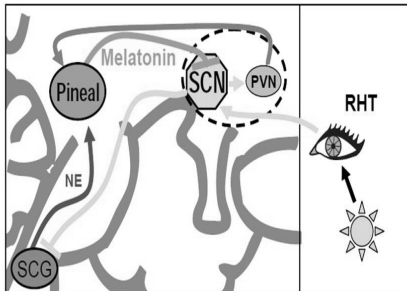
### Pros and Cons of Zolpidem

- Improves quality of sleep
- Effects on total wake-time and number of nighttime awakenings may be decreased over time
- Not a benzodiazepine itself, but binds to benzodiazepine receptors
- Tolerance and abuse have not been shown to be a major problem in the general population
- In general have shorter duration of action than most benzos and therefore are less likely to cause next day sedation
- Sedation
- Dizziness, ataxia
- Dose-dependent amnesia
- Hyperexcitability, nervousness
- Rare hallucinations
- Diarrhea, nausea
- Headache

### BENZODIAZEPINE RC AGONISTS

Agent	Dose (mg)	Half-life(h)
<b>NONBENZODIAZEPINES</b>		
Zaleplon <sup>†</sup>	5 (elderly) 10 (adults)	~1
Zolpidem <sup>†</sup> (4주)	5 (elderly) 10 (adults)	1.4-4.5
Zopiclone <sup>‡</sup>	7.5	3.8-6.5
<b>BENZODIAZEPINES</b>		
Short-acting Triazolam <sup>‡</sup> (3주)	0.25	1.5-5.5
Intermediate-acting Temazepam <sup>†</sup>	7.5, 15, or 30	3.5-18.4
Long-acting Flurazepam HCl <sup>†</sup>	30	47-100

### MELATONIN; SLEEP-PROMOTING FACTOR

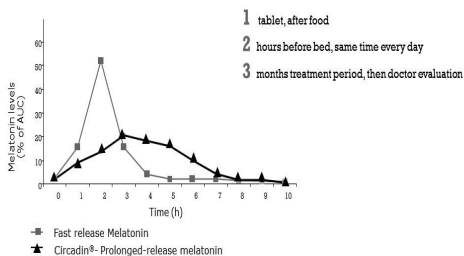


### RAMELTEON (ROZEREM)

- Selective agonist at MT1 and MT2 melatonin receptors
- FDA approved for sleep-onset insomnia (2005)
- Not restricted to short term use
- Old age, REM 수면을 감소시키지 않고, 서파 수면의 회복을 촉진
- Associated with headache, drowsiness, fatigue and nausea, prolactin ↑
- No rebound insomnia or withdrawal symptoms (Roth et al, 2006)
- 8mg dosage only

### CIRCADIN® VS. IMMEDIATE-RELEASE MELATONIN

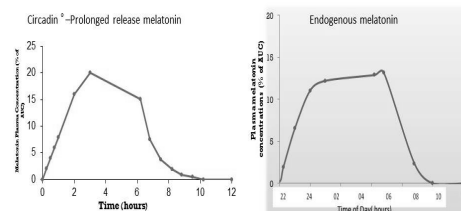
• Immediate-release melatonin has a **rapid onset** to high levels and is rapidly metabolised



Zisapel 2010 The Open Neuroendocrinology Journal, 2010, 3, 85-88

### Circadin® vs. Endogenous Melatonin

- Circadin® releases melatonin over a predefined extended period of time
- circumvents both the build-up of high levels and the fast clearance of melatonin



## Antidepressants

- Commonly used for insomnia but are not FDA approved
- 항히스타민과 항세로토닌에 대한 작용으로 수면개선효과
- 우울증 환자에서의 불면증 개선
- 일반적으로 항우울효과를 위해 사용되는 용량보다 훨씬 적은 용량 사용
  - TCA; amitriptyline
  - Trazodone
  - Mirtazapine

## TCA (AMITRIPTYLINE, IMIPRAMINE)

- H1 : Anti Histamine
- Alpha 1 : alpha 1 blockade adrenergic
- Sleep onset, maintain improved**
- SW increased**
- REM decreased: REM** 수면 관련 이상수면과와상후 스트레스장애에 효과
- Good for snoring, but Bad for PLMD**
- 부작용: 입마름, 노정제, 어지러움, 낮 시간 졸림
- 일반적으로 항우울효과를 위해 사용되는 용량보다 훨씬 적은 용량 사용

## TCA (DOXEPINE)

- 2010년 FDA에서 불면증 치료에 승인 받은 유일한 항우울제
- 수면 유지 불면증 치료에 사용
- 불면증 치료에는 우울증 치료보다 낮은 용량 사용 (3-6mg vs. 100-200mg)
- > 주로 이 용량에서 히스타민 수용체에 선택적으로 작용
- 각성을 줄이고, 수면의 효율성과 총 수면시간을 증가시킴

## Trazodone

SARI (serotonin 2 antagonist/reuptake inhibitor); antidepressant; hypnotic

- $\alpha 1$  아드레날린성 수용체와 5-HT<sub>1A</sub>, 5-HT<sub>1C</sub>, 5-HT<sub>2</sub> 수용체를 억제
- The most commonly prescribed agent for treating insomnia across all classes of medications
- No good research to support its use
- Major side effects: sedation, dizziness, dry mouth, orthostatic hypotension, priapism (rare)

### How to Dose

Insomnia: initial 25-50 mg at bedtime; increase as tolerated, usually to 50-100 mg/day (depression), but some patients may require up to full antidepressant dose range

## Mirtazapine (Remeron)

- Histamine 1 receptor antagonism may explain sedative effects
- Histamine 1 receptor antagonism plus 5HT<sub>2C</sub> antagonism may explain some aspects of weight gain
- Associated with weight gain, increased appetite, daytime sedation and dizziness
- 안면홍조가 있는 갱년기 여성의 불면증에 효과
- **How to Dose**
  - Initial 15 mg/day in the evening; increase every 1-2 weeks until desired efficacy is reached; maximum generally 45 mg/day

## Polysomnographic Effects of Sedating Antidepressant Drugs on Sleep

Drug	Sleep Latency	Sleep Continuity	Stage 3/4 NREM Sleep Amount (%)	REM Sleep	Other
Doxepin	↓	↑	↔	↓ amount, % of REM ↑ phasic eye movements (REM density)	↓ sleep apnea (minor effect); ↔ or ↑ periodic limb movements; ↑ restless legs symptoms; may induce eye movements during NREM sleep
Amitriptyline	↓	↑	↔	↓ amount, % of REM ↑ phasic eye movements (REM density)	
Trimipramine	↓	↑	↔	↔ amount, %	
Trazodone	↓	↔ to ↑	↑	↔ amount, % (↓ to ↑ in individual studies)	
Nefazodone	↔	↑	↔	↔	
Mirtazapine	↓	↑	↔	↔	

## Summary of Other Drugs I

Choral hydrate	Two-carbon molecule	Short	Converted to trichloroethanol, which undergoes conjugation	5-10 h (for trichloroethanol)	Barbiturate-like effect at GABA-A receptors
Olanzapine	Thienobenzodiazepine antipsychotic	4-6 h	CYP1A2, CYP2D6	20-54 h	Antagonizes H <sub>1</sub> , α <sub>1</sub> , α <sub>2</sub> , M <sub>1</sub> , 5-HT <sub>2</sub> , D <sub>2</sub> receptors
Quetiapine	Dibenzothiazepine antipsychotic	1-2 h	CYP3A4	6 h	Antagonizes H <sub>1</sub> , α <sub>1</sub> , M <sub>1</sub> , 5-HT <sub>2</sub> , D <sub>2</sub> receptors
Gamma-hydroxybutyrate (GHB)	Endogenous four-carbon molecule	30-45 min	Metabolized to GABA, succinic semialdehyde, H <sub>2</sub> O and CO <sub>2</sub>	20-70 min	May act directly as neurotransmitter, increase brain dopamine levels

## Summary of Other Drugs II

Drug	Drug Type	Time to Maximal Concentration	Metabolism	Elimination Half-Life	Mechanism of Action
Melatonin	Hormone	20-60 min	Conjugation; oxidation by CYP enzymes	40-60 min	Agonist at melatonin type 1 and type 2 receptors
Diphenhydramine	Ethanolamine antihistamine	2-2.5 h	Hepatic demethylation, oxidation	4-8 h	Antagonize H <sub>1</sub> receptors
Doxylamine	Ethanolamine antihistamine	2-3 h	Most excreted unchanged in urine; some hepatic metabolism	10	Antagonize H <sub>1</sub> receptors

## 미국내과학회(ACP) 만성불면증 치료 가이드라인

만성불면증 약물치료 효과					
표 1. 모든 성인 환자			표 2. 고령 환자		
결과	효과	근거수준	결과	효과	근거수준
에스조피론 치료군 vs 위약군	개선	낮음	졸피뎀 치료군 vs 위약군	개선	낮음
관해율	개선	낮음	전면적 임상양상 개선	개선	낮음
일 잠수	개선	낮음	수면 시간	개선	낮음
수면 잠복기	개선	중등	총 수면 시간	개선	낮음
총 수면 시간	개선	중등	잠든 후 깨	개선	낮음
잠든 후 깨	개선	낮음	특정된 치료군 vs 위약군		
졸피뎀 치료군 vs 위약군	개선	중등	총 수면 시간(3mg)	개선	낮음
수면 잠복기	개선	중등	총 수면 시간(6mg)	개선	낮음
총 수면 시간	개선	중등	잠든 후 깨(3mg)	개선	낮음
일요 시 졸피뎀 치료군 vs 위약군	개선	중등	잠든 후 깨(6mg)	개선	낮음
전면적 임상양상 개선	개선	낮음	수면제 사용 vs 위약군		
수면 잠복기	개선	중등	환자 vs 잠수 변화	개선	중등
총 수면 시간	개선	중등	환자 vs 잠수 변화	개선	중등
특정된 치료군 vs 위약군	개선	중등	수면 잠복기	개선	중등
관해율	개선	중등	총 수면 시간	개선	중등
관해율	개선	중등	잠든 후 깨	개선	중등

메디컬 옵저버 2016.06.07

## SUCCESSFUL TREATMENT FOR CO-MORBID INSOMNIA AND SLEEP APNEA

- Co-occurring insomnia and sleep apnoea is a highly prevalent
- Consider overlapping symptoms when measuring insomnia co-morbid with OSA.
- When primary focus is on treating OSA should routinely evaluate their patients for insomnia symptoms and consider specific insomnia treatment (e.g., CBTi) if patients have poor adherence or response to OSA treatments such as CPAP.
- Conversely, when primary focus is on the treatment of insomnia patients, should screen for underlying OSA. If OSA is present, patients may require targeted treatments for each disorder (e.g., with CBTi and CPAP therapy).

Sleep Medicine Reviews xxx (2016) 1-11

## 맺음말

- 불면증은 원인 파악이 중요 (다각적 접근과 병력 청취 중요)
- 인지행동치료와 같은 비약물적 치료가 우선 고려
- 약물 치료는 비약물치료의 보조적 수단
- 수면제는 단기간 사용하는 것을 추천 (천천히 감량하면서 끊도록)
- 동반 질환 유무 (수면무호흡증 등) 및 약화 고려
- 낮시간의 활동 및 약물 의존성 고려 (노인 낙상, 운전 등 주의)
- 불면증 치료의 주체는 환자 자신임을 각인시키고, 스스로 노력하도록 함