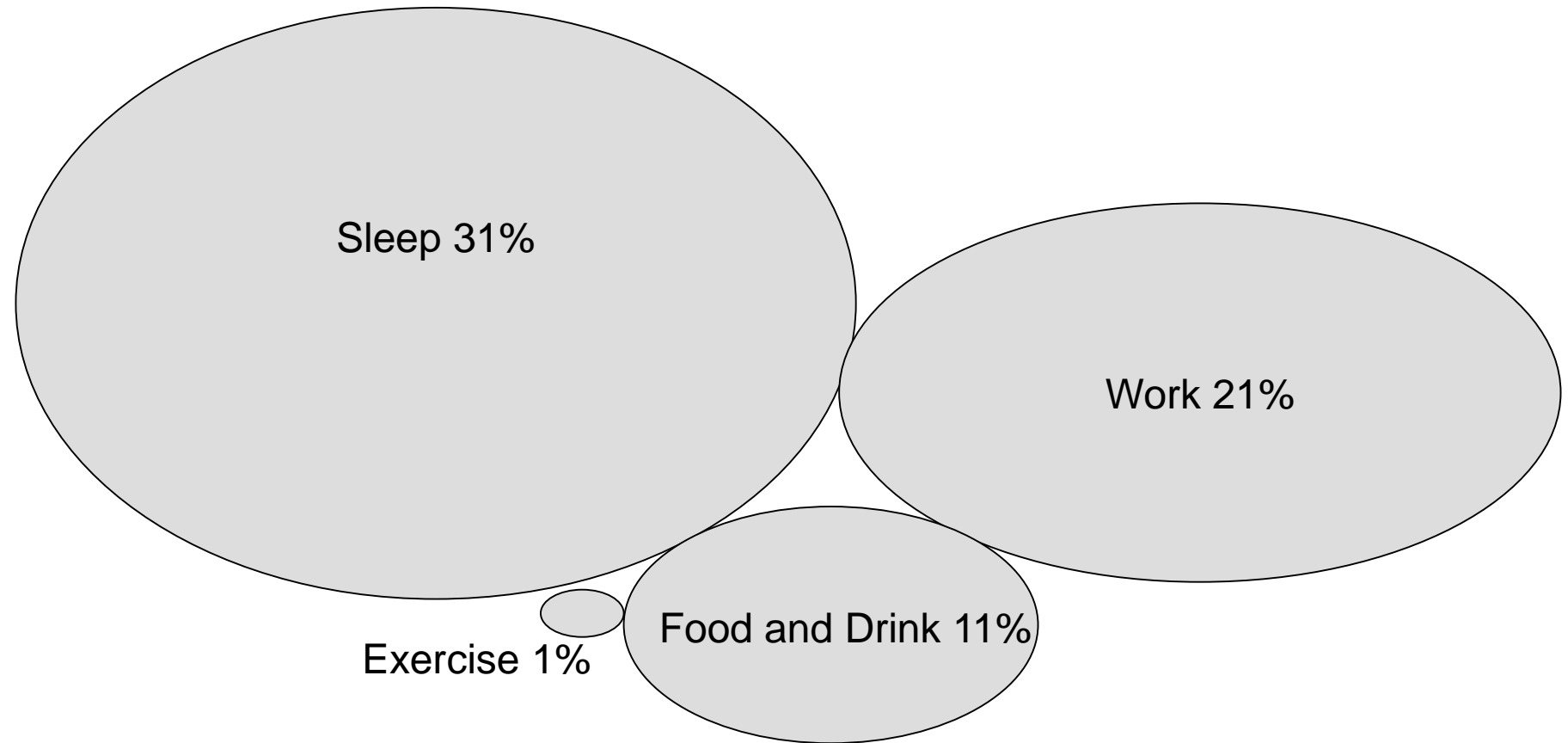


Help – I Have Problems with My Sleep!

Dr Guy Leschziner
Consultant Neurologist
Sleep Disorders Centre
Guy's and St Thomas' NHS Trust



Over An 85 Year Lifespan...



Sleep Is Important!

- You can survive without food for up to 2 months
- Without water 3-5 days
- Food and water 24 days, in certain conditions
- Without sleep ?11-32 days

Prominent Theories

- **Energy Conservation Theories**

- Reduction of metabolic rate
- Enforced inactivity to balance energy input and output

- **Memory reinforcement**

- Evolution of increasing demands on brain to process complex information
- Reinforcement of complex memory circuits

- **Neural Cleansing**

What is Sleep?

Non-REM sleep

Known as slow wave sleep stages (SWS) and is important for:

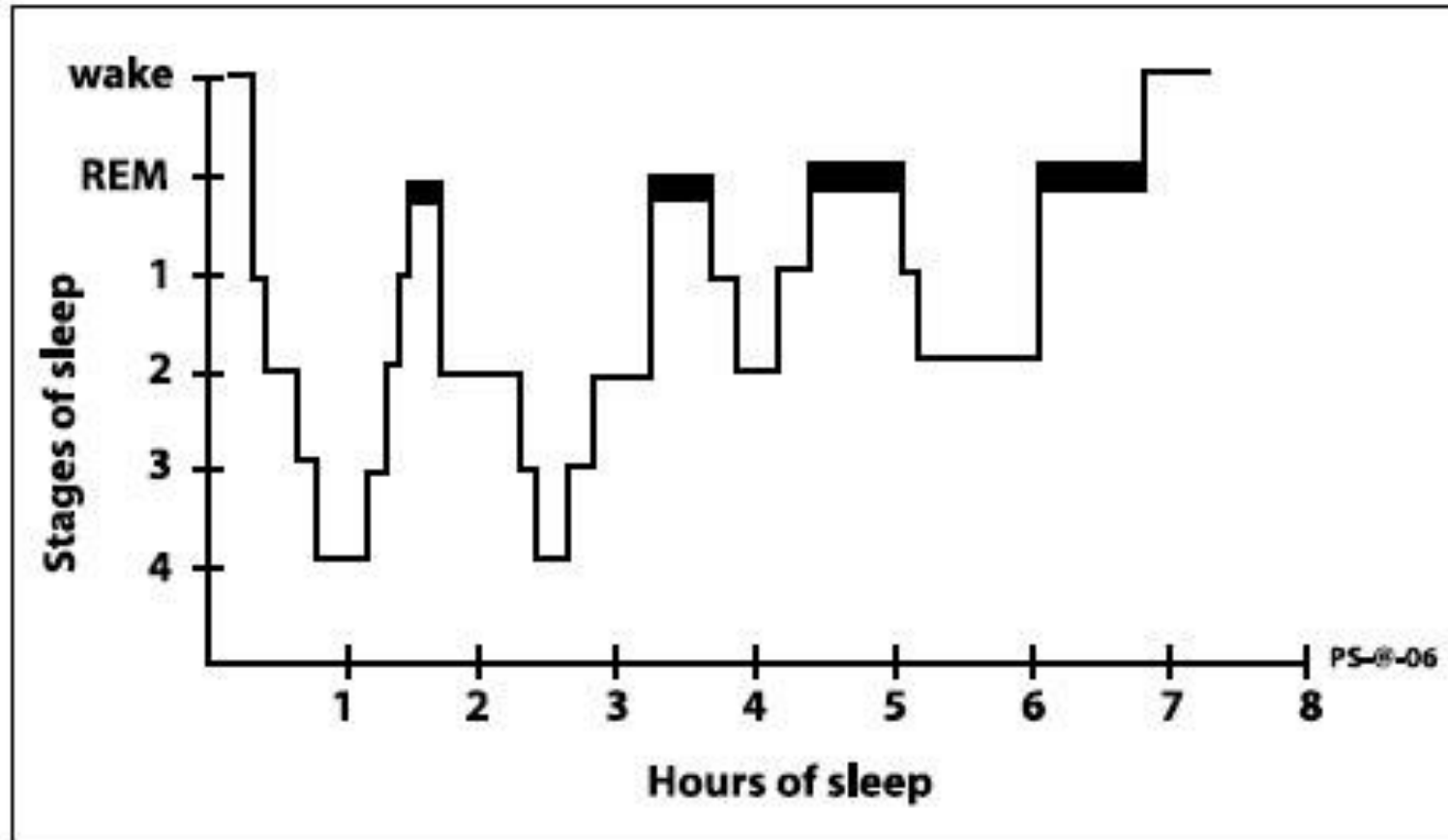
- Physical restoration, repair and growth
- Immune function.

REM (rapid eye movement) sleep

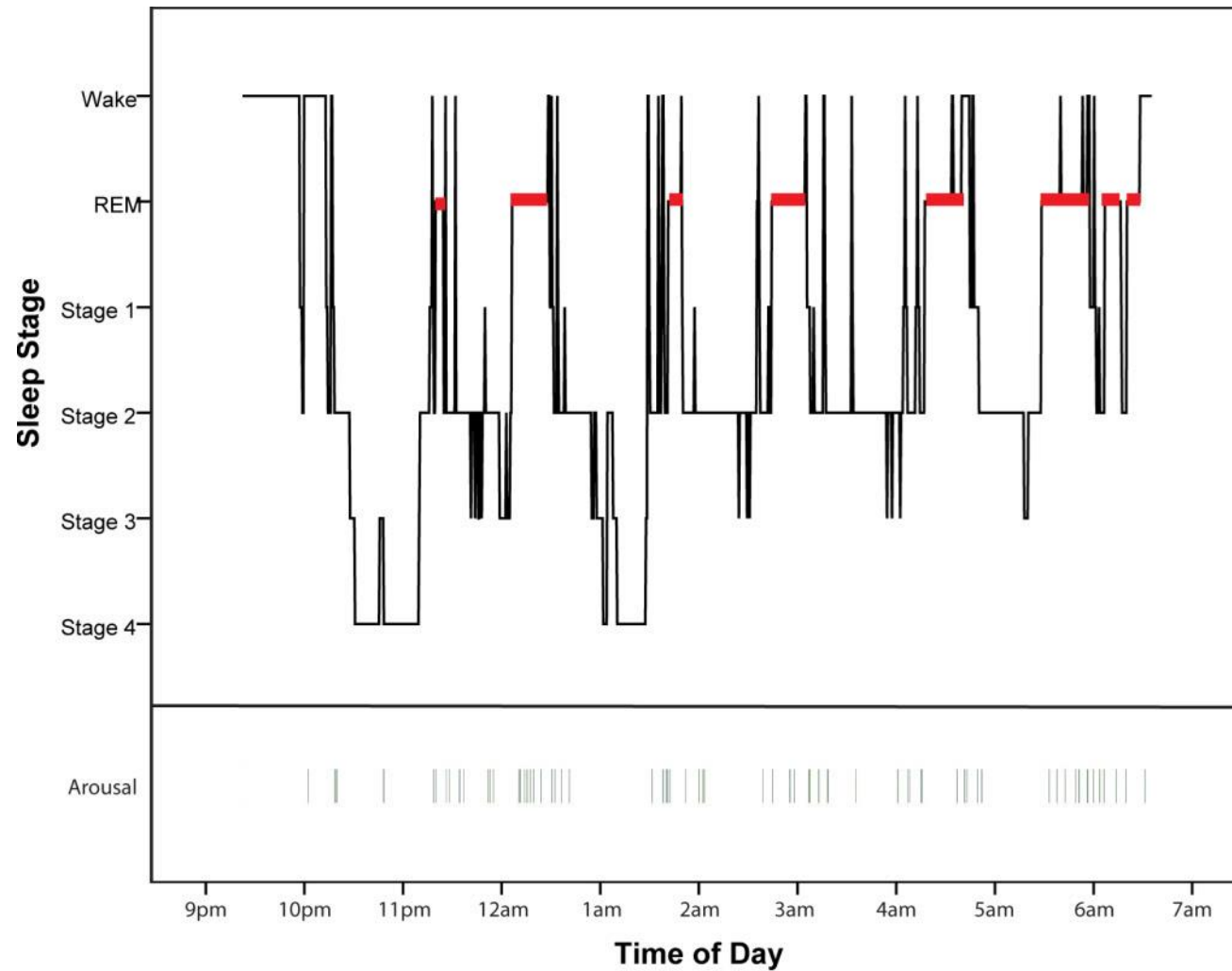
Phase of sleep during which dreaming takes place important for:

- Memory storage and retention
- Mood maintenance
- Concentration
- Cognitive function.

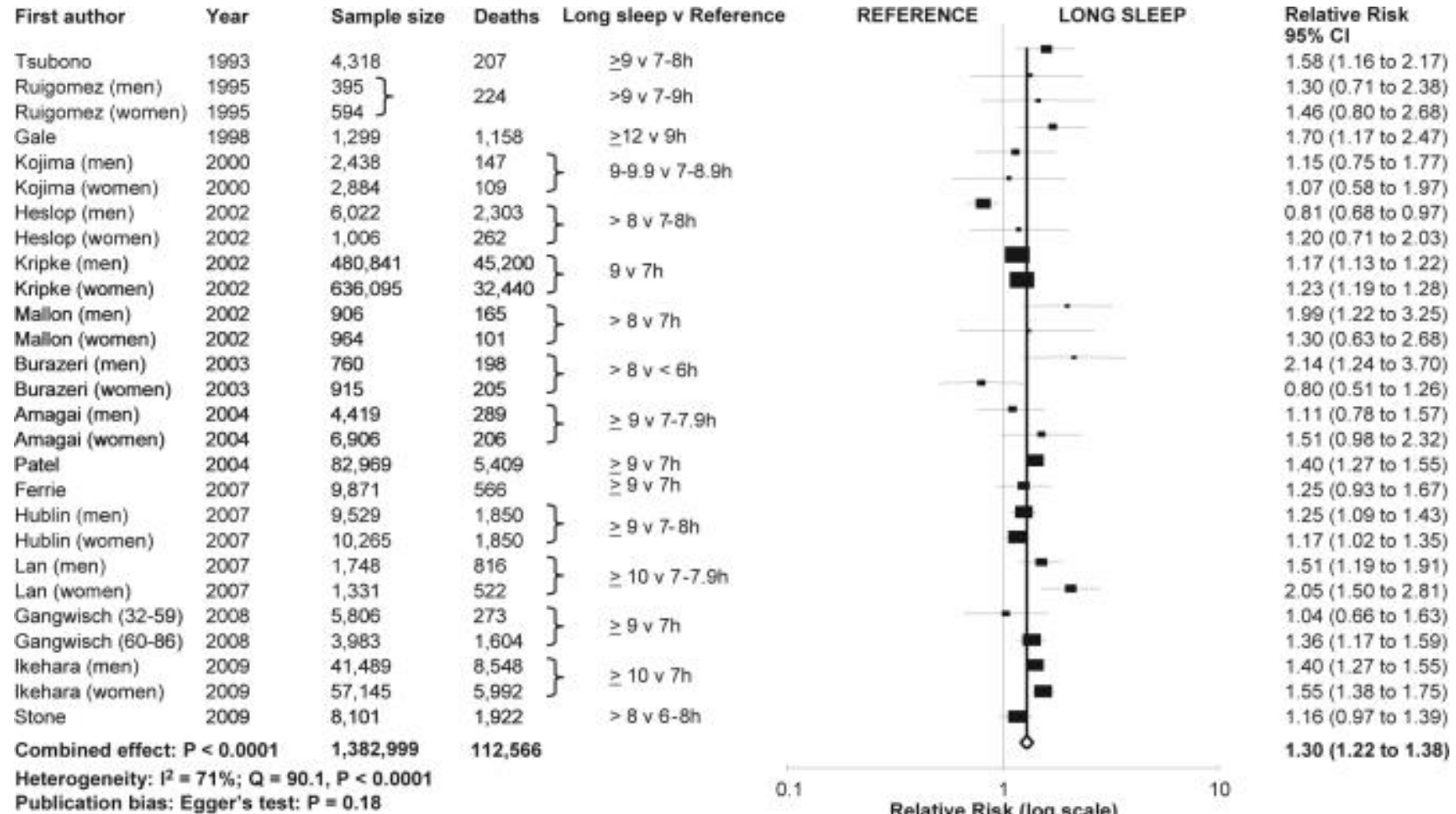
Typical Human Sleep Pattern



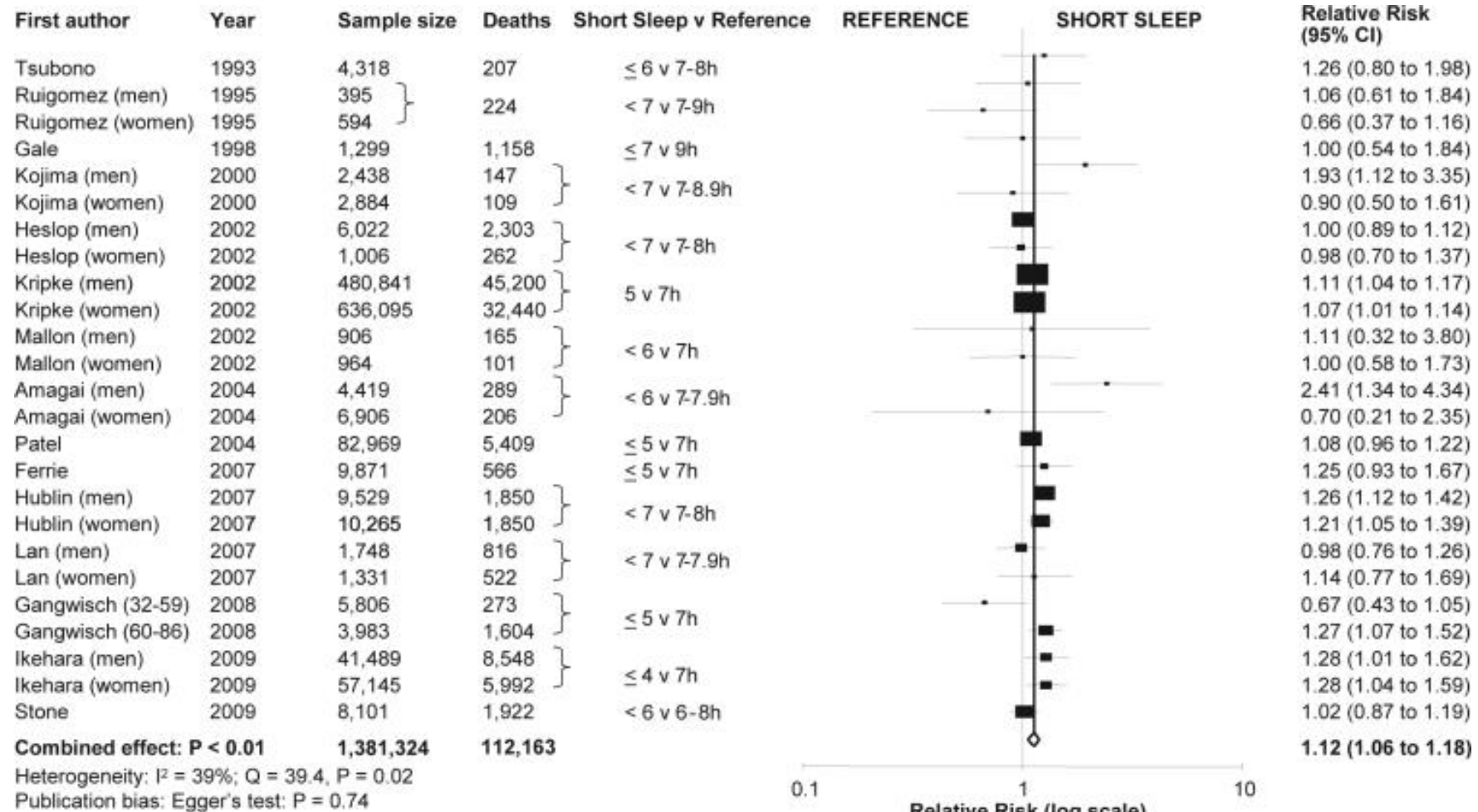
More Usual Human Sleep Pattern

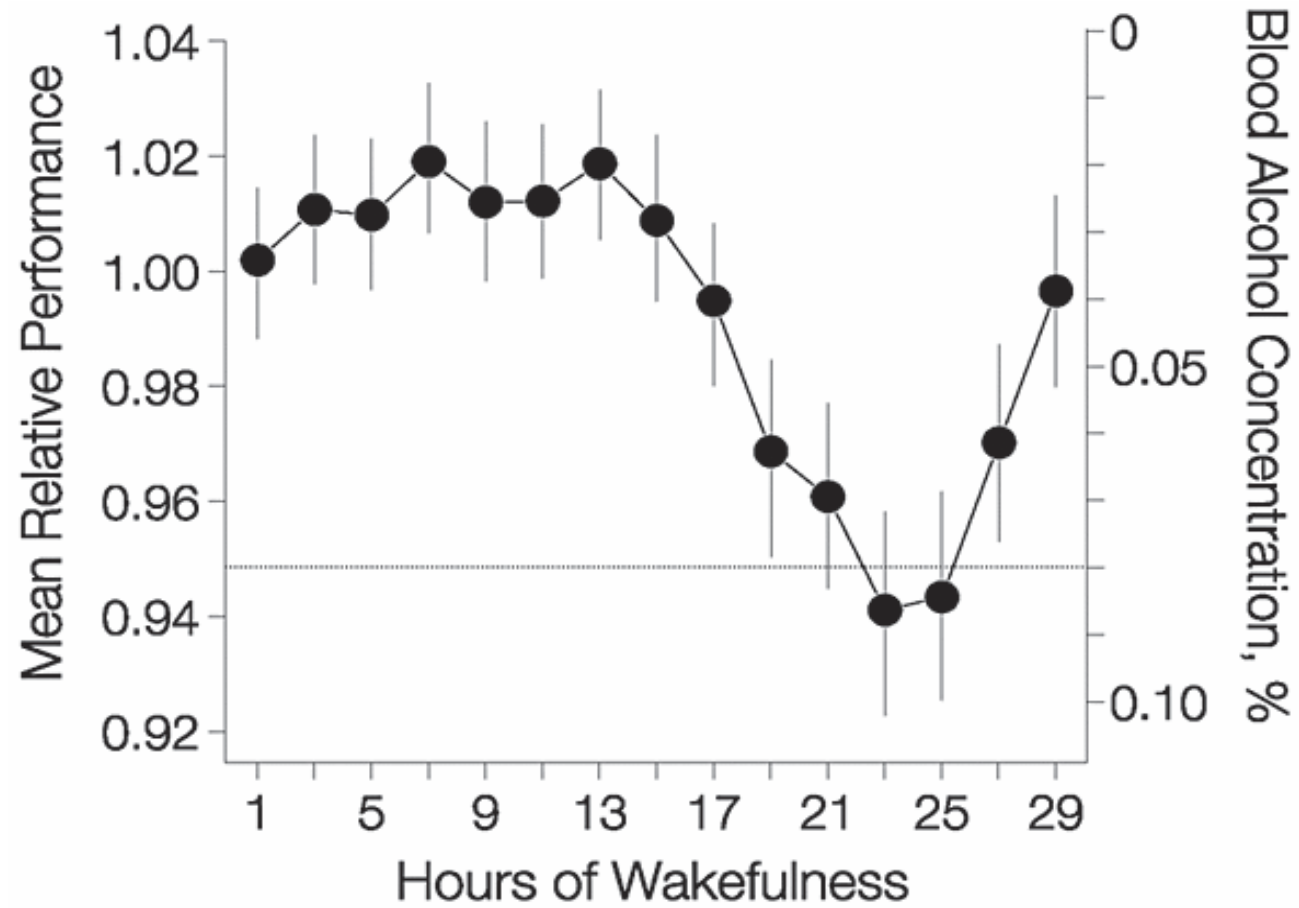


So how much is “normal”?

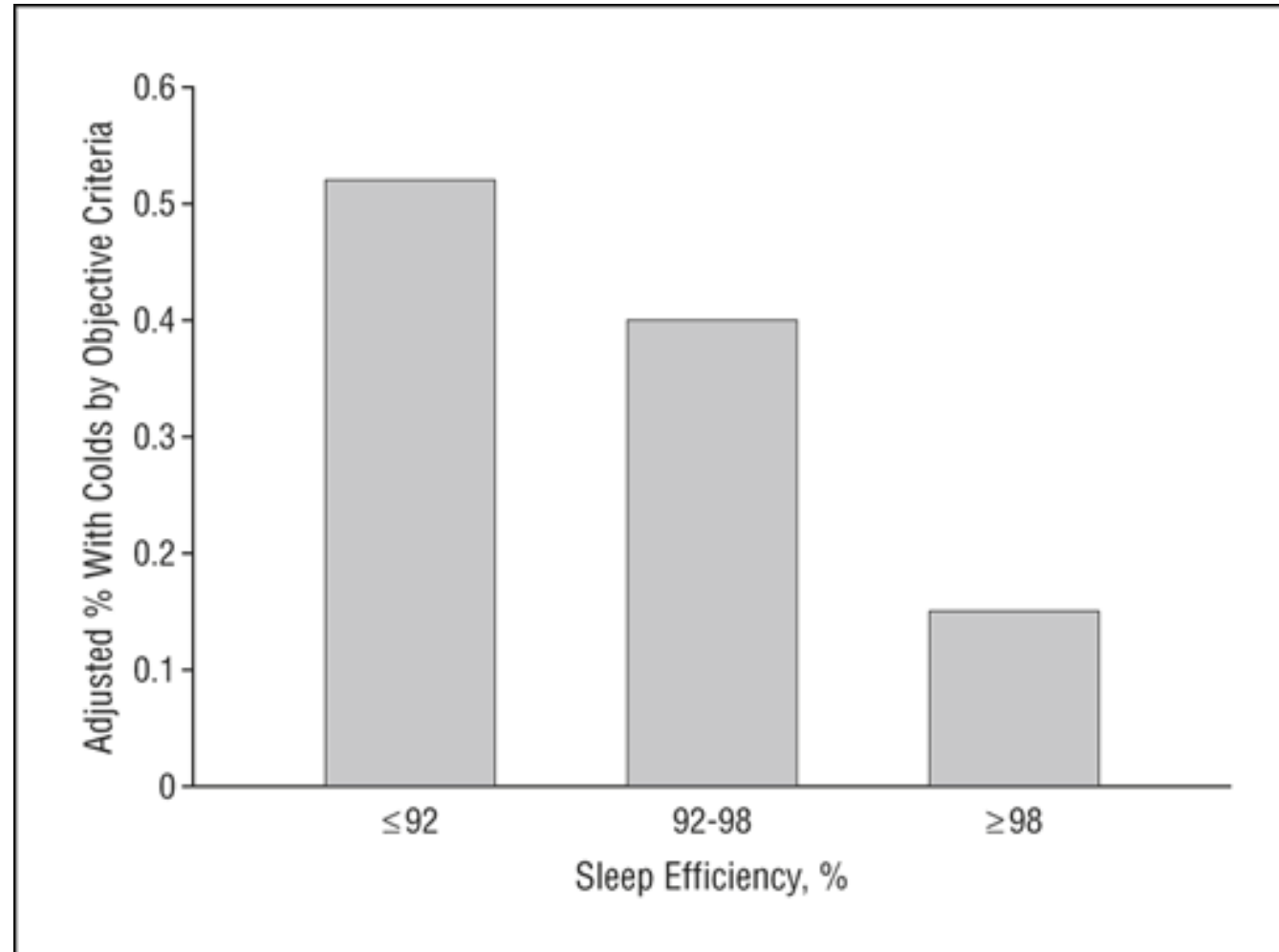


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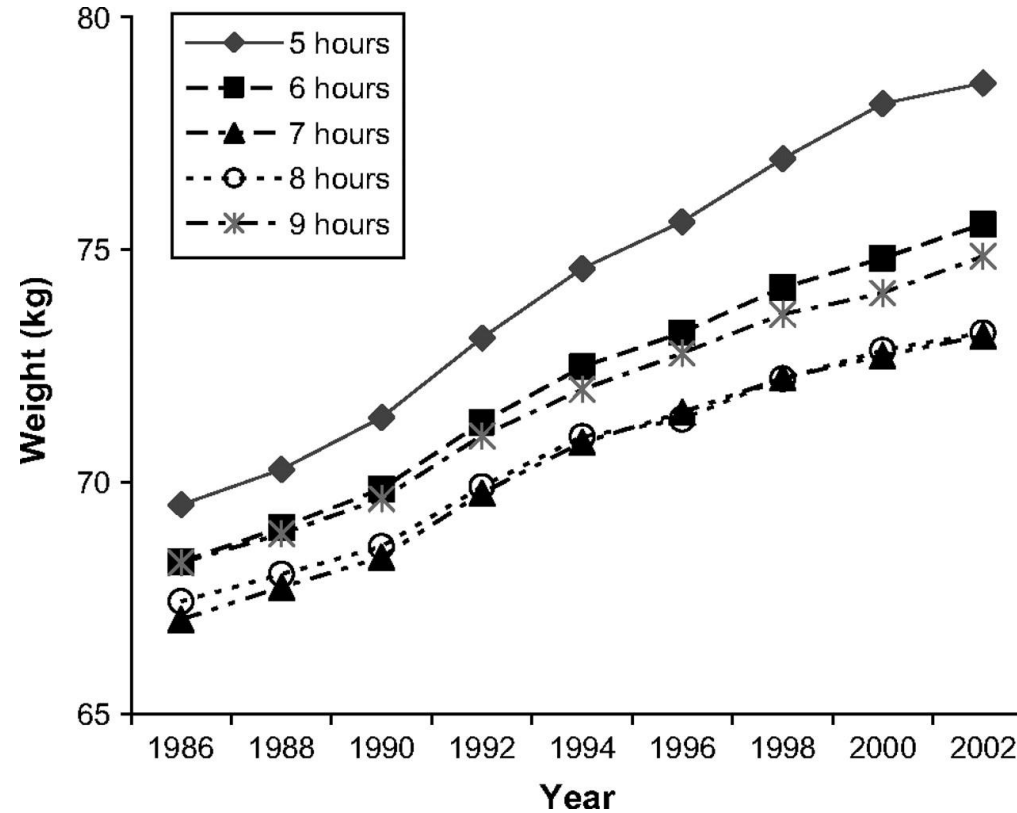




Sleep and Immunity



Sleep and Weight Gain



Patel S R et al. Am. J. Epidemiol. 2006;164:947-954

Mean age-adjusted weight of the Nurses' Health Study cohort from 1986 to 2002 as a function of habitual sleep duration in 1986.

Sleep and Other Medical Problems

- Increasing evidence of role of sleep in:
 - High Blood Pressure
 - Diabetes
 - Cardiovascular Disease
 - Kidney Disease
 - Dementia
 - Cancer
 - Depression
 - Epilepsy

Are You Sleepy?

What is the chance of you dozing off while:

- Sitting and reading?
- Watching TV?
- Sitting inactive in a public place (eg. theatre or meeting)?
- As a passenger in a car for an hour without a break?
- Lying down in the afternoon?
- Sitting and talking to someone?
- Sitting quietly after lunch (no alcohol)?
- Stopped for a few minutes in traffic while driving?

(Epworth Sleepiness Scale)

No chance = 0

Mild chance = 1

Moderate chance = 2

High Chance = 3

Common Sleep Issues

- Chronic Sleep Deprivation – approx. 20% of the population
- Insomnia – 30% will have a period of insomnia, 10% have chronic problems
- Sleep Apnoea – 4-8% of the adult population
- Restless Legs Syndrome – 5%
- Sleepwalking and related conditions 1-2%
- Narcolepsy – 1 in 2000 = 270 in L+S alone
- Circadian rhythm disorders

Snoring and Sleep Apnoea

- On a spectrum of sleep-disordered breathing
- Sleep apnoea affects 4% men, 2% women
- Associated with obesity, large neck circumference, smoking
- Increasing evidence that it has a contributing role to the development of hypertension, cardiovascular disease, stroke and diabetes
- Symptoms include unrefreshing sleep, recurrent awakenings with gasping, getting up repeatedly to urinate, dry mouth, sore throat, early morning headache

Snoring and Sleep Apnoea



Restless Legs Syndrome

- Common neurological disorder, affects 2-5% of population
- Sensation of restlessness or discomfort, associated with worsening in evening, relieved by movement, worsened by immobility
- Usually genetic, but associated with iron deficiency, kidney problems or pregnancy
- Often coincides with periodic limb movement disorder
- Symptoms include difficulty getting off to sleep, unrefreshing sleep, recurrent awakenings, kicking at night

Parasomnias

- REM sleep behaviour disorders
- Non-REM parasomnias
- Bruxism
- Epilepsy
- Transitional parasomnias

Narcolepsy

- Neurological disorder
- Failure to control wake and sleep, but also dreaming sleep
- Sleep attacks
- Hallucinations
- Sleep Paralysis
- Cataplexy

Guy's Sleep Disorders Centre

- One of the largest sleep centres in the world
- 13000 patients per year, 3500 in-patient admissions for sleep studies
- A large multidisciplinary team
 - Respiratory physicians, neurologists, psychiatrists, psychologists, pharmacists
 - Highly trained sleep technologists
 - Close working with paediatric service and Lane Fox Unit
- Highly specialist
- Complex problems with referrals from all over the country