

leep Apnea

Presented by Vanessa Laferrière inh.
Respiratory Therapist

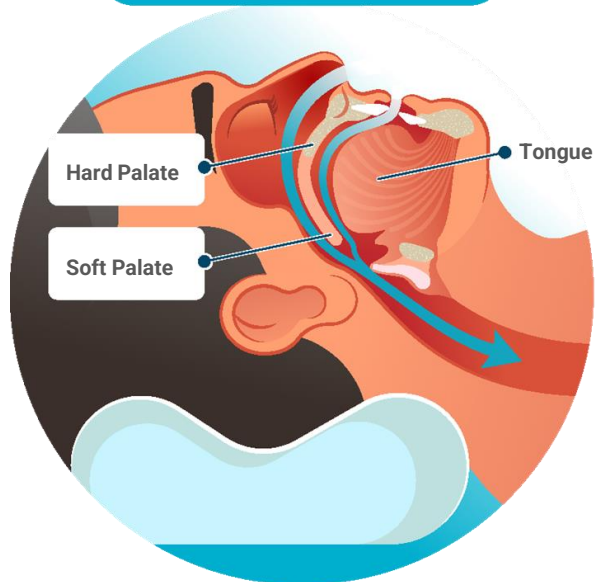
What is sleep apnea?



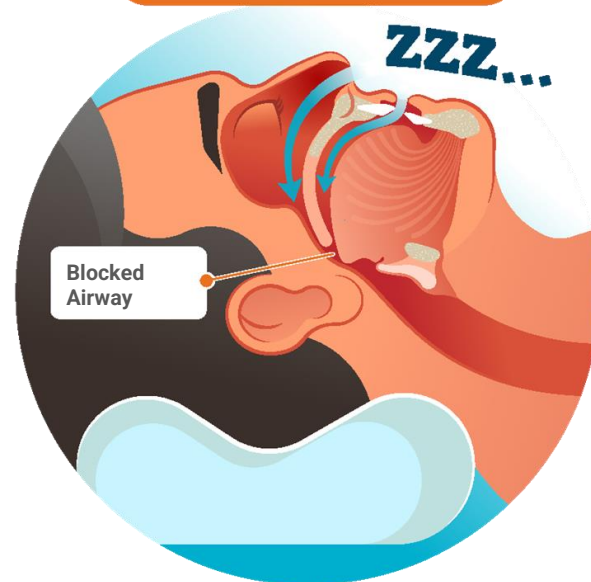
What is sleep apnea?



NORMAL BREATHING



SLEEP APNEA

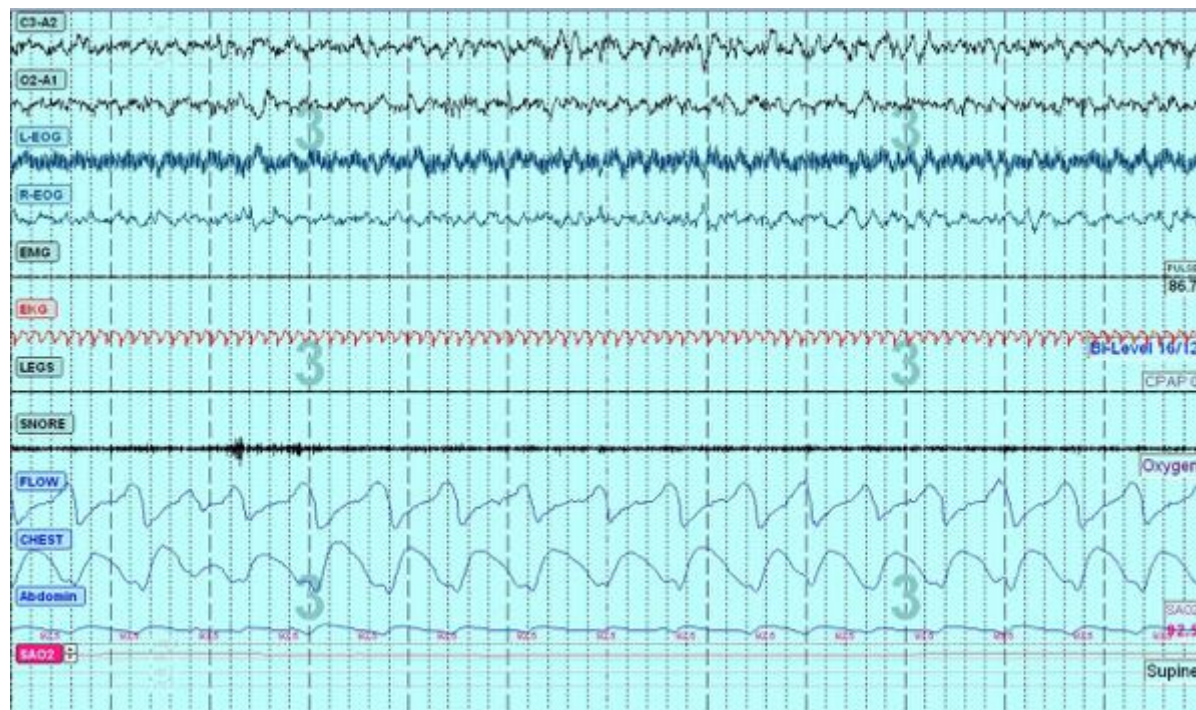


What is sleep apnea?

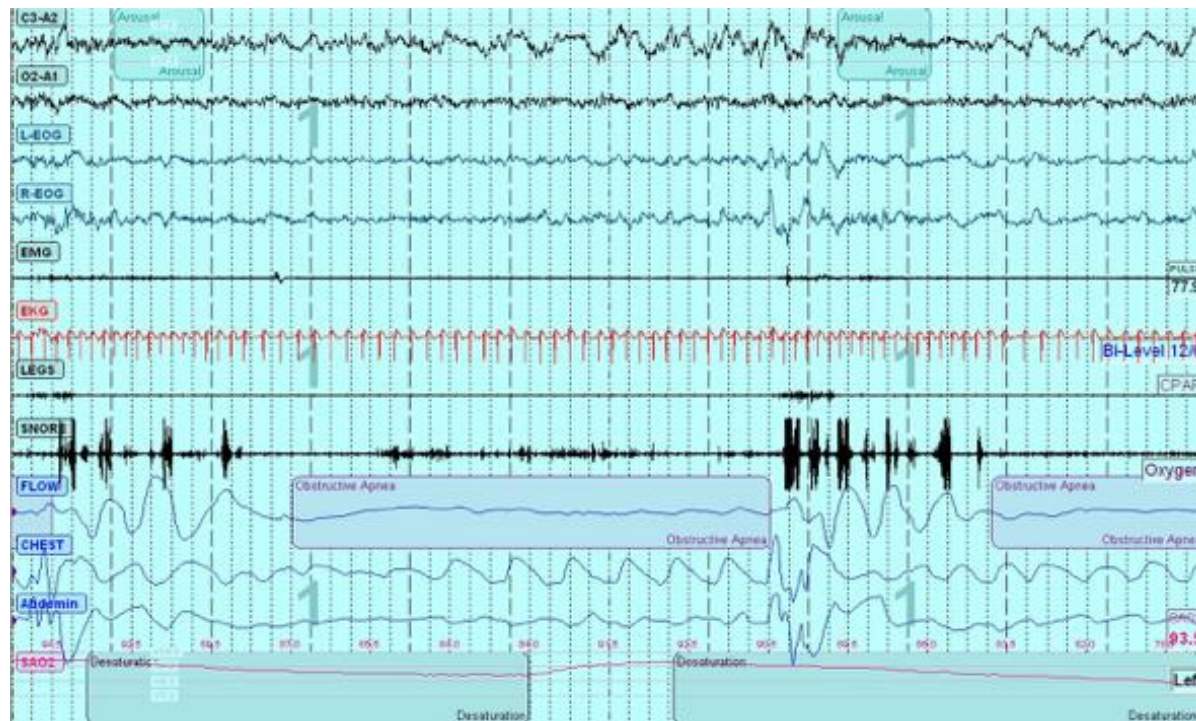


AHI = APNEA INDEX + HYPOPNEAS PER HOUR

What is sleep apnea?



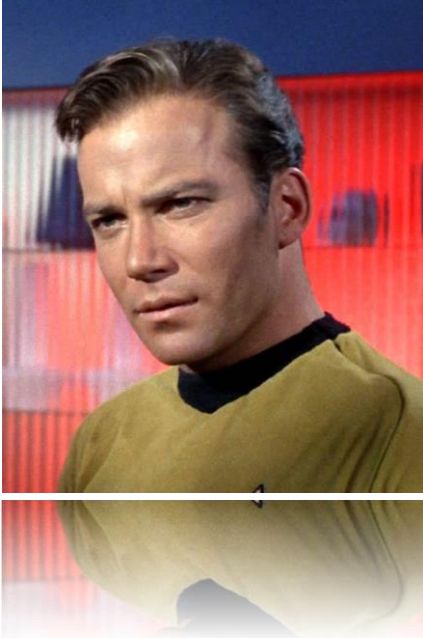
What is sleep apnea?



Famous personalities with sleep apnea syndrome



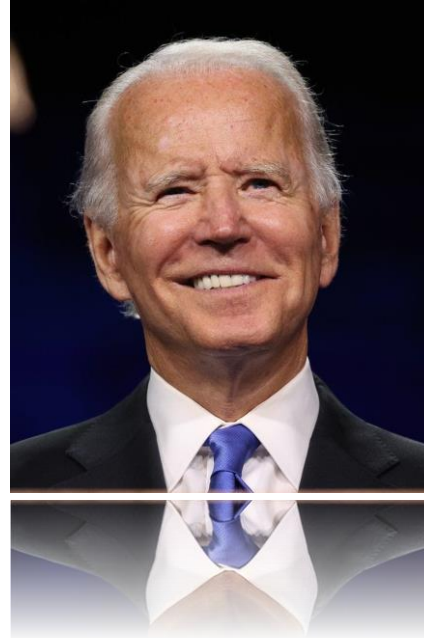
William Shatner



Shaquille O'Neal



Joe Biden



Rosie O'Donnell



Sleep Apnea Symptoms Daytime



Persistent fatigue



Depression



Dry mouth in the morning



Headaches



**Concentration
issues**



**Excessive morning
fatigue**

Sleep Apnea Symptoms Night Time



Night sweats



Nocturia



Snoring



Restless sleep



Nightmares



**Gasping or choking
sensation**

1 in 4 Canadians over the age of 55 suffer from sleep apnea.

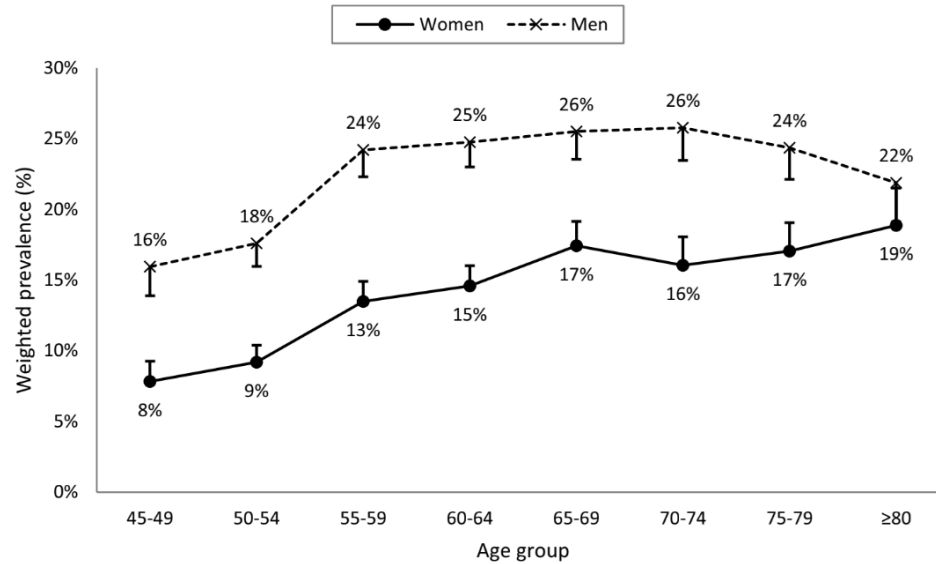


Figure 2. Prevalence of participants at high-risk for OSA by age group in women (solid curve) and men (dashed curve). Error bars represent the 95% confidence interval.

Probability of sleep apnea in people aged 65 and over



1052 participants



Among 1,052 participants who completed the sleep module, 56% were estimated to be at elevated risk for OSA. Only 8% of the elevated risk individuals had been tested for it. Among those tested, 94% were diagnosed with OSA. Treatment with positive airway pressure was prescribed for 82% of participants with an OSA diagnosis.



56% estimated at risk



**8%
who have taken a test**



**94%
diagnosed with OSA**



**82% with OSA are
treated with PAP therapy**

Recent guidelines on sleep-disordered breathing sleep-disordered breathing in people aged 65 and over



TASK FORCE REPORT
GUIDELINES

Principles of practice parameters for the treatment of sleep disordered breathing in the elderly and frail elderly: the consensus of the International Geriatric Sleep Medicine Task Force

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Donald L. Bliwise⁴, Stephany Fulda⁵, Christine Roffe⁶, Fernanda Almeida⁷,
Hakki Onen⁸, Fannie Onen⁹, Friedhart Raschke¹⁰, Miguel Angel Martinez Garcia¹¹
and Helmut Frohnhofen^{12,13}

Affiliations: ¹Hermann Buhl Institute for Hypoxia and Sleep Medicine Research, Dept of Sports Science, Faculty of Psychology and Sports Science, University Innsbruck, Austria. ²Division of Sports Medicine and Rehabilitation, Dept of Medicine, University Hospitals Ulm, Ulm, Germany. ³Depts of Psychiatry and Medicine, University of California, San Diego, CA, USA. ⁴Sleep Program, Dept of Neurology, Emory University, Atlanta, GA, USA. ⁵Sleep and Epilepsy Center, Neurocenter of Southern Switzerland, Lugano, Switzerland. ⁶Institute for Science and Technology in Medicine, Keele University, Keele, UK. ⁷Dental Medical School, University of British Columbia, Vancouver, BC, Canada. ⁸Geriatric Sleep Center, Edouard Herriot University Hospital, HCL, Lyon, France. ⁹Dept of Geriatrics, Bichat University Hospital, APHP and INSERM U669, Paris, France. ¹⁰Institute for Rehabilitation Research, Hospital Norderney, Norderney, Germany. ¹¹Respiratory Dept, La Fe University and Hospital, Valencia, Spain. ¹²Faculty of Health, Dept Medicine, University Witten-Herdecke, Witten, Germany. ¹³Dept of Geriatrics, Kliniken Essen Mitte, Essen, Germany.

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Sleep disordered breathing (SDB) is a leading cause of morbidity worldwide. Its prevalence increases with age. Due to the demographic changes in industrial societies, pulmonologists and sleep physicians are confronted with a rapidly growing number of elderly SDB patients. For many physicians, it remains unclear how current guidelines for SDB management apply to elderly and frail elderly patients. The goal of this consensus statement is to provide guidance based on published evidence for SDB treatment in this specific patient group.

Clinicians and researchers with expertise in geriatric sleep medicine representing several countries were invited to participate in a task force. A literature search of PubMed from the past 12 years and a systematic



CrossMark

Effectiveness of sleep apnea treatment in patients aged 65 and over



“CPAP reduces sleepiness and is marginally more cost effective over 12 months than is best supportive care alone.”

Lancet Respir Med 2014; 2: 804–812

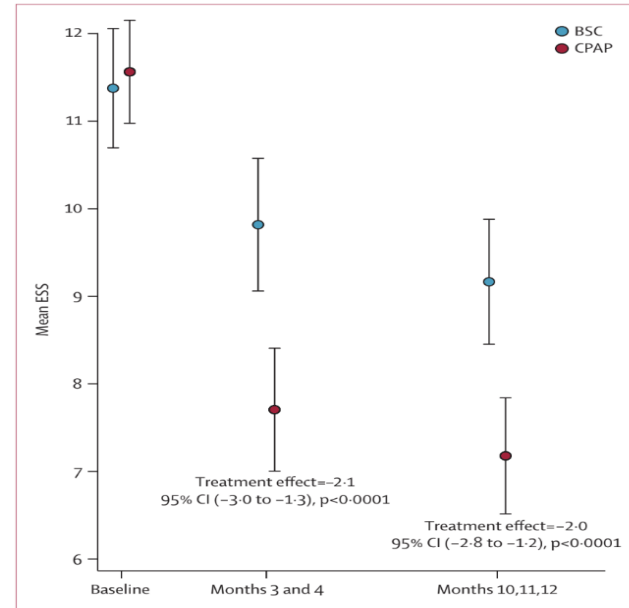


Figure 2: Treatment effect of CPAP compared with BSC on subjective sleepiness measured by mean ESS

Problems associated with sleep apnea



Predicting those at risk of obstructive sleep apnea (OSA)

Anterior ischemic optic neuropathy (NAION)	80%
Hypertension (more than 3 treatments)	80%
Metabolic syndrome	80%
Bariatric pre-op	80%
Acromegaly	75%
Post-traumatic stress disorder	70%
Pre-op	70%
Pregnancy-induced hypertension, pre-eclampsia	70%
Polycystic ovary syndrome	70%
CVA (Cerebrovascular Accident) TIA (Transient Ischemic Attack)	70%

Problems associated with sleep apnea



Predicting those at risk of obstructive sleep apnea (OSA)

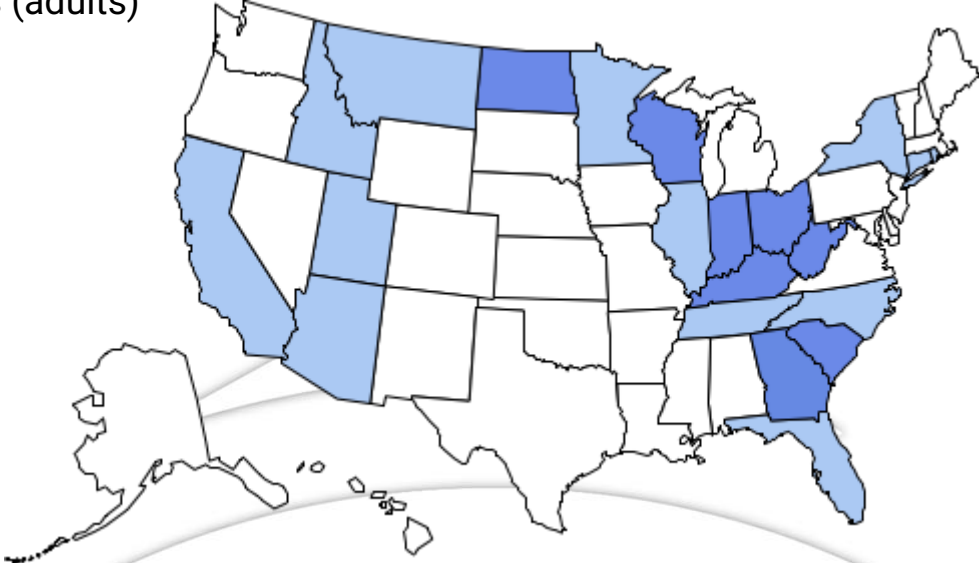
Atrial fibrillation (under 60 years) arrhythmia	50%
Depression or Asthma	50%
Obesity of any severity	40%
Trisomy 21 (Down syndrome)	40%
Primary care clinic	38%
Glaucoma (normotensive)	35%
Hypertension (under 60 years)	35%
Bipolar	25%
Schizophrenia	15%

Problems associated with sleep apnea



Obesity - United States (adults)

1985



□ No Data □ <10% □ 10%-14%

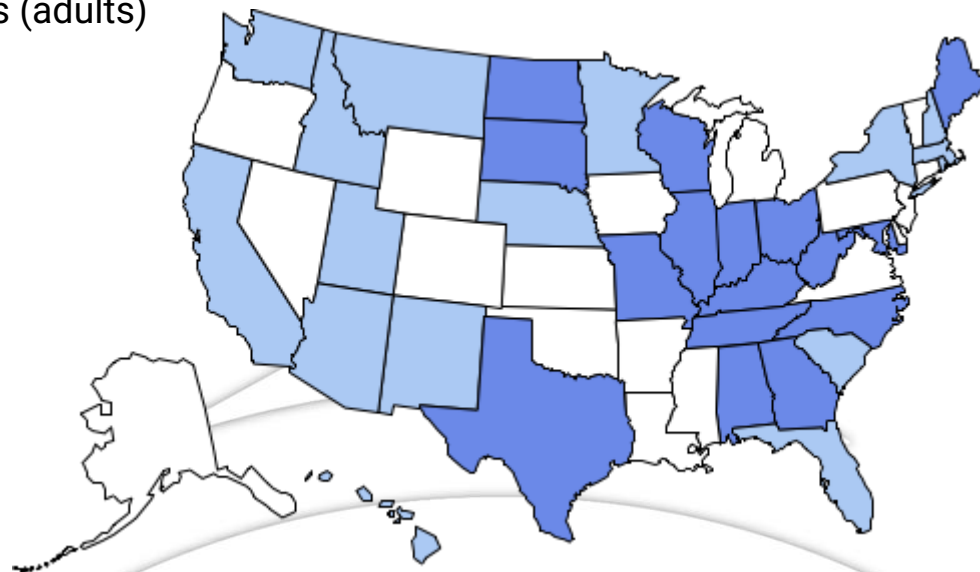


Problems associated with sleep apnea



Obesity - United States (adults)

1987



□ No Data □ <10% □ 10%-14%

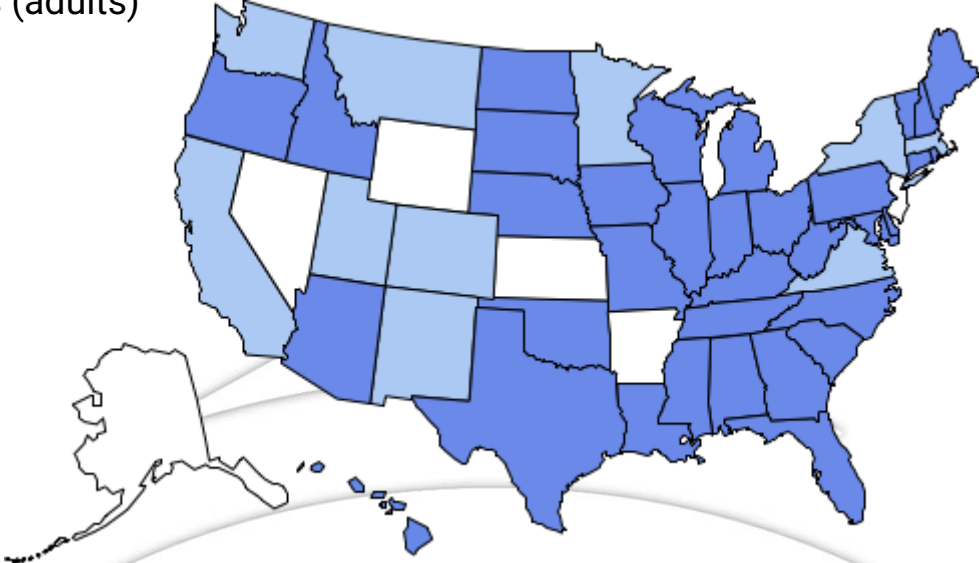


Problems associated with sleep apnea



Obesity - United States (adults)

1988



□ No Data □ <10% □ 10%-14%

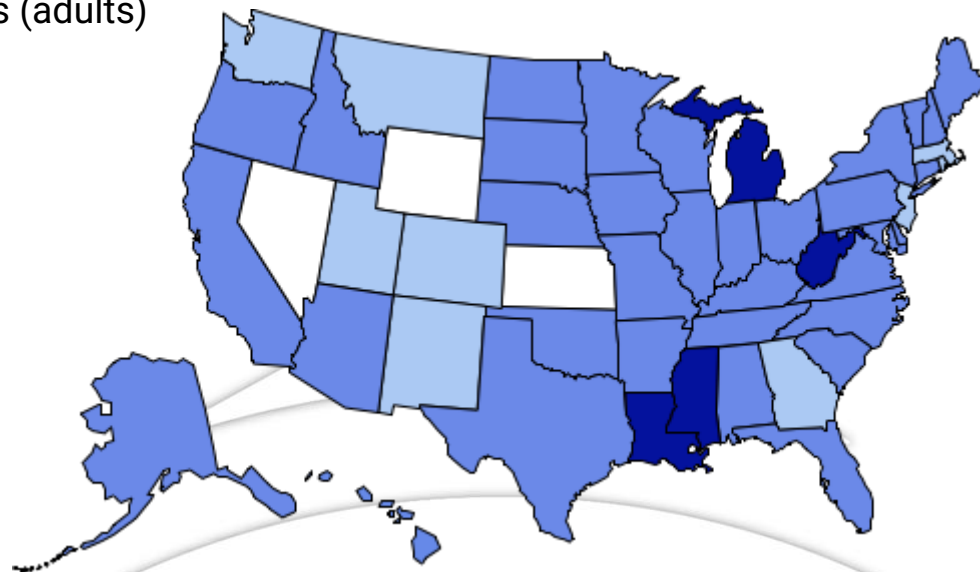


Problems associated with sleep apnea



Obesity - United States (adults)

1990



□ No Data □ <10% □ 10%-14% □ 15%-19%

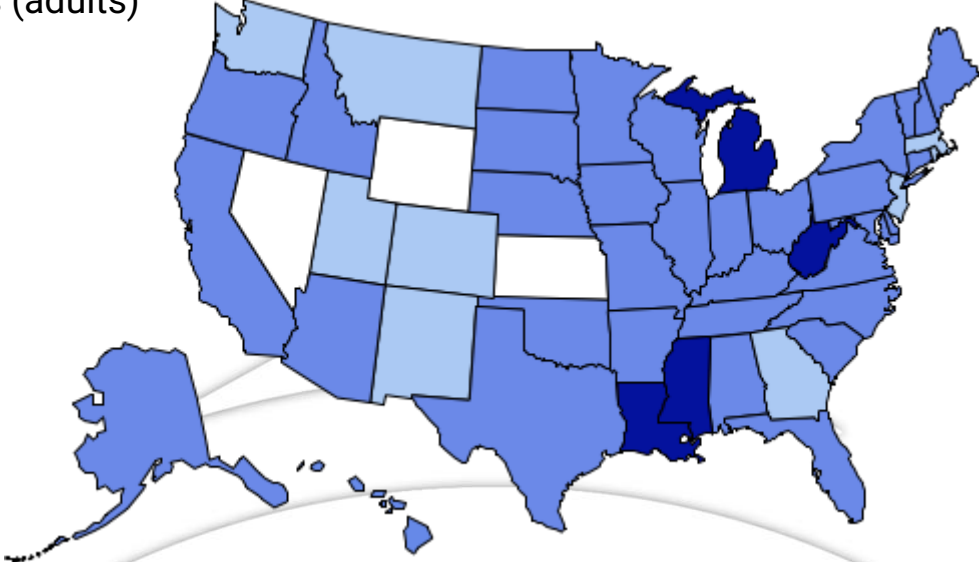


Problems associated with sleep apnea



Obesity - United States (adults)

1991



No Data <10% 10%-14% 15%-19%

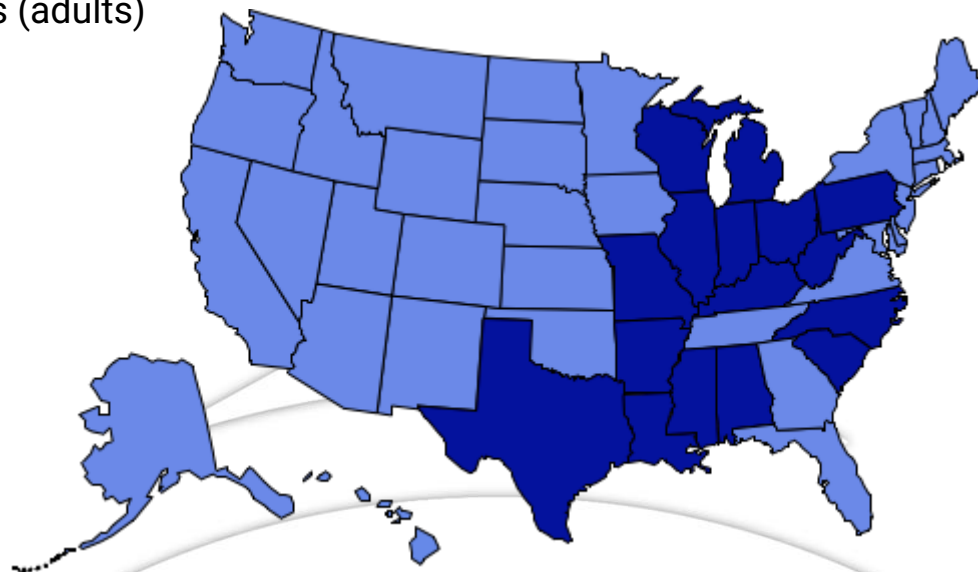


Problems associated with sleep apnea



Obesity - United States (adults)

1994



□ No Data □ <10% □ 10%–14% □ 15% -19%

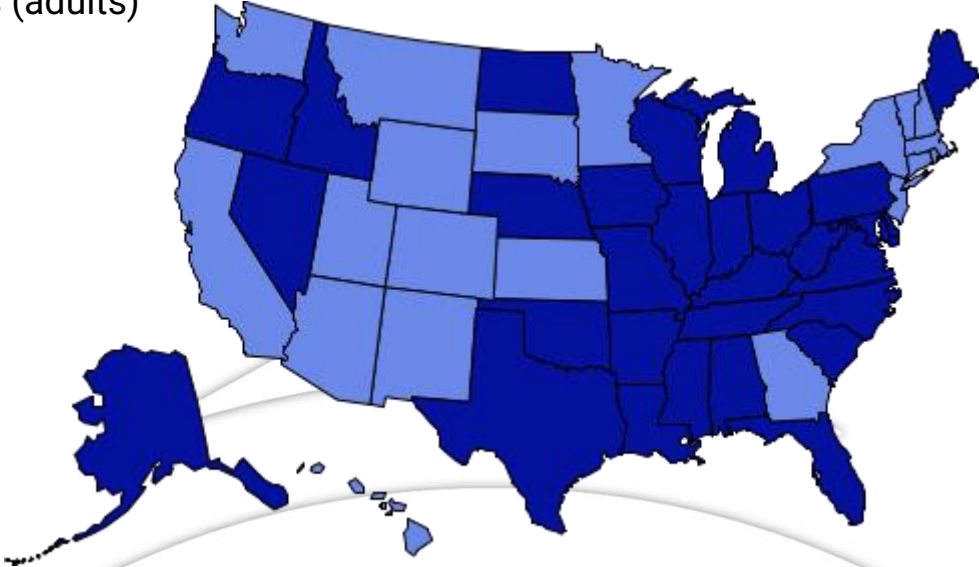


Problems associated with sleep apnea



Obesity - United States (adults)

1996



No Data <10% 10%-14% 15%-19%

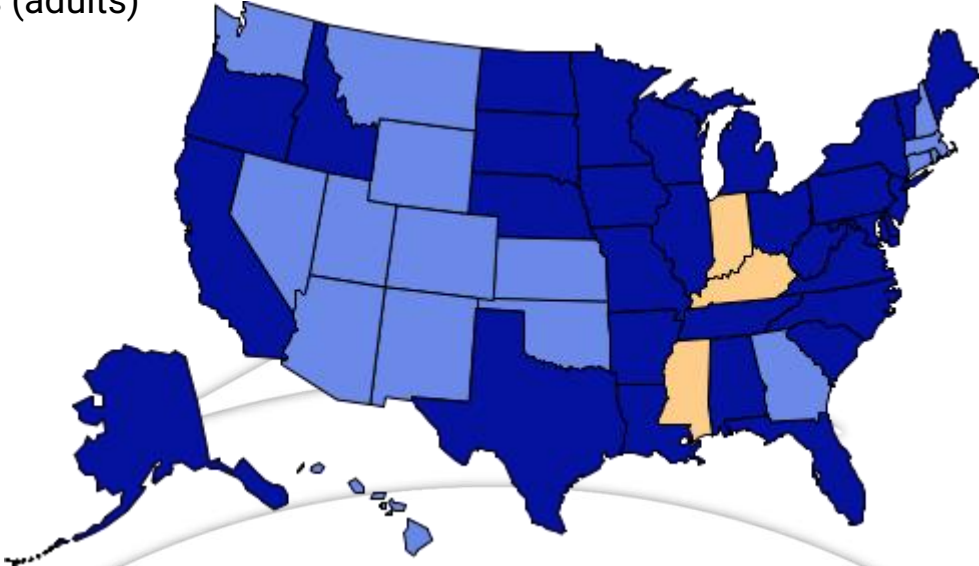


Problems associated with sleep apnea



Obesity - United States (adults)

1997



No Data <10% 10%-14% 15% -19% ≥ 20%

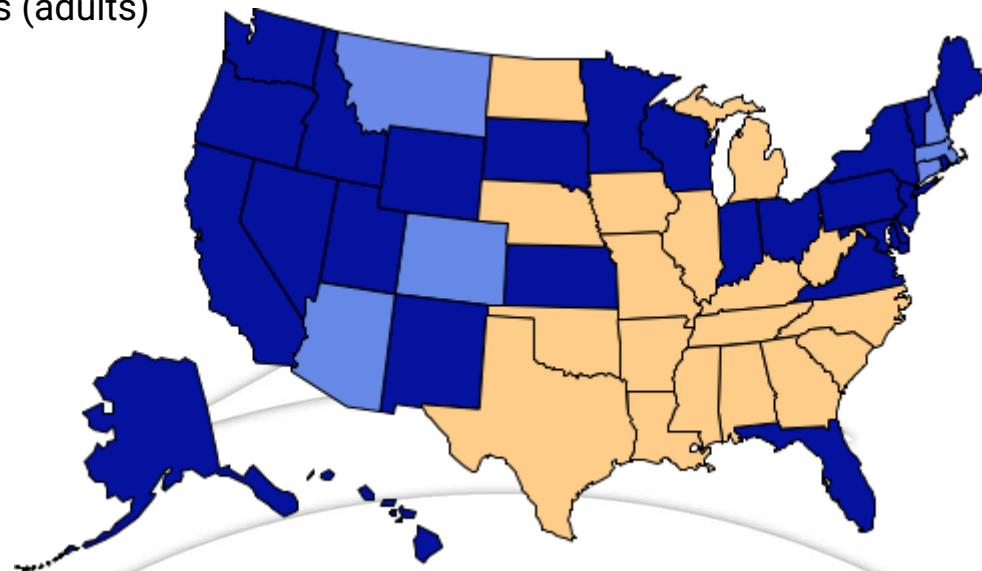


Problems associated with sleep apnea



Obesity - United States (adults)

1999



□ No Data □ <10% □ 10-14% □ 15-19% □ ≥20%

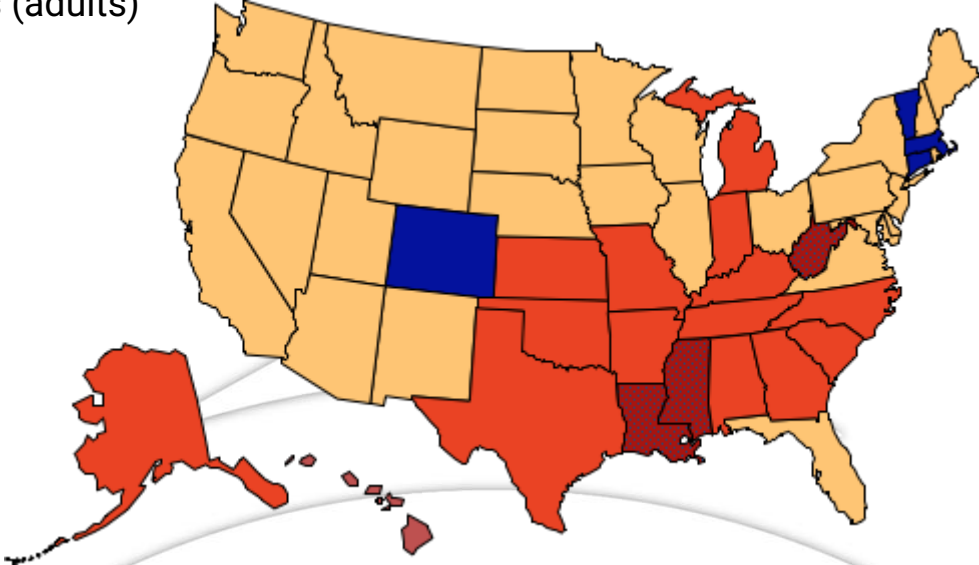


Problems associated with sleep apnea



Obesity - United States (adults)

2004



No Data <10% 10%–14% 5% -19% 20% - 24% 25% - 29% ≥ 30%

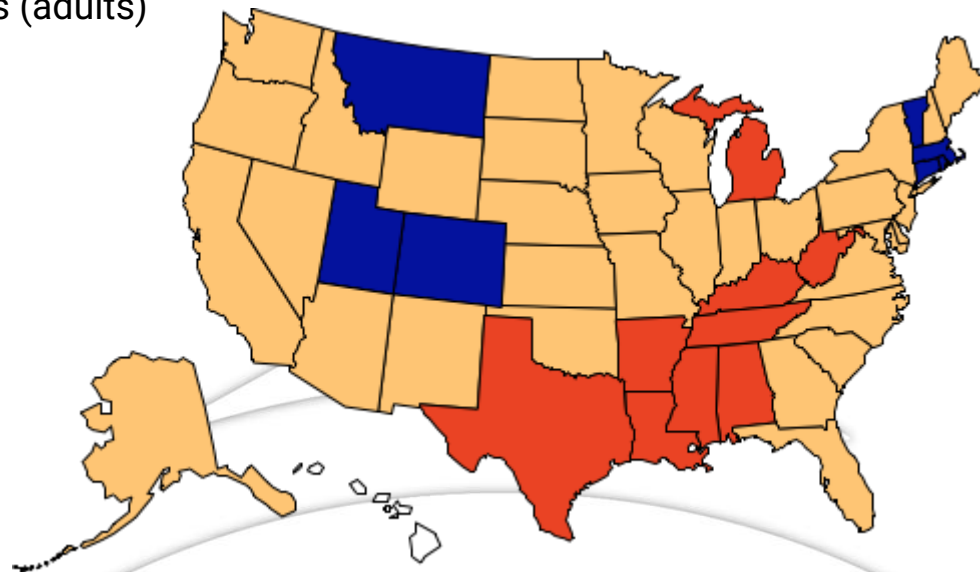


Problems associated with sleep apnea



Obesity - United States (adults)

2005



Legend: No Data, <10%, 10%-14%, 15%-19%, 20%-24%, ≥ 25%

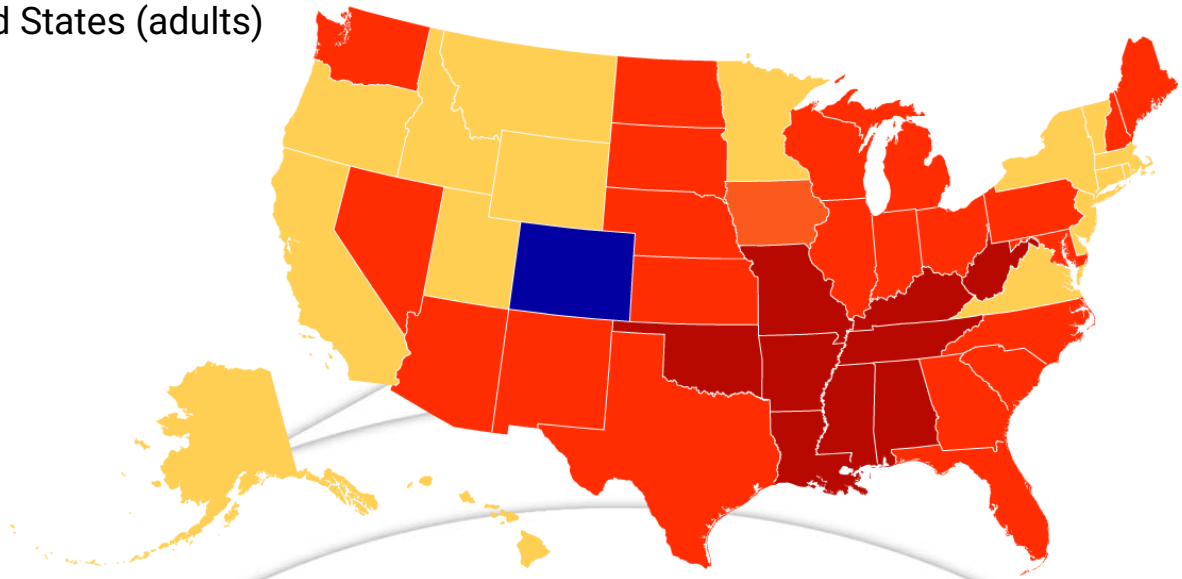


Problems associated with sleep apnea



Obesity - United States (adults)

2009



Legend: No Data, < 10%, 10% - 14%, 15% - 19%, 20% - 24%, 25% - 29%, ≥ 30%

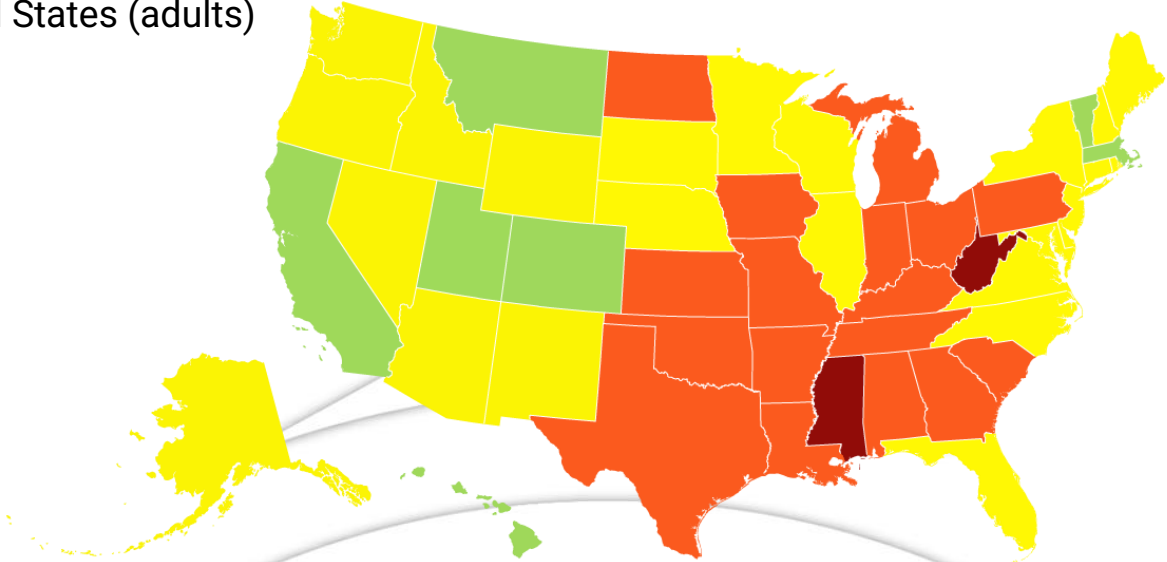


Problems associated with sleep apnea



Obesity - United States (adults)

2013



15% - 20% 20% - 25% 25% - 30% 30% - 35% ≥ 35%

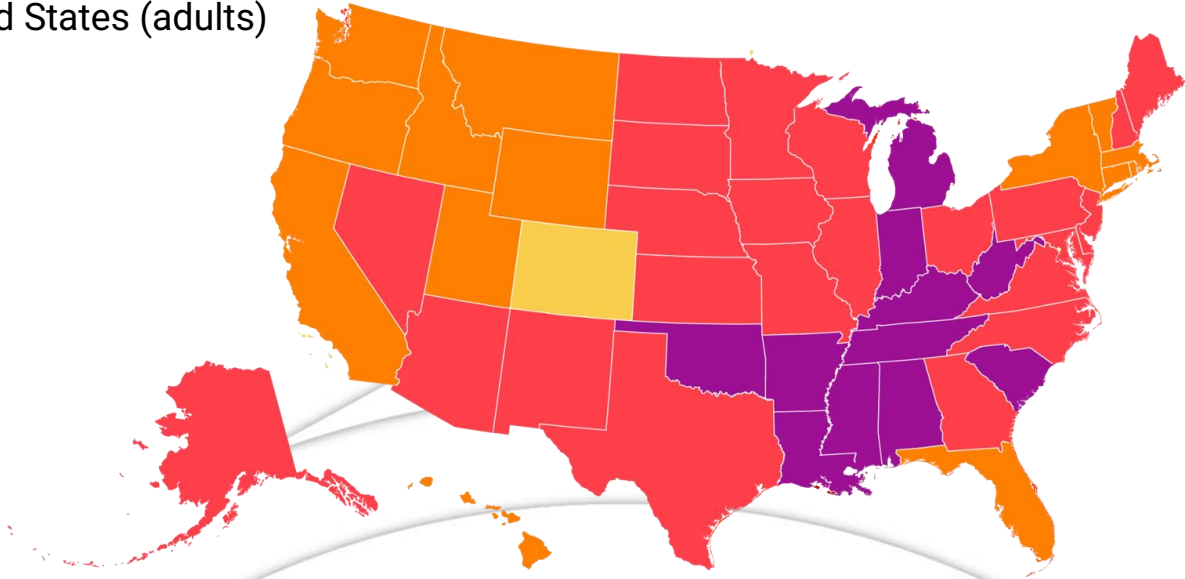


Problems associated with sleep apnea



Obesity - United States (adults)

2019



■ <math>< 10\%</math> ■ 10% - 14% ■ 15% - 19% ■ 20% - 24% ■ 25% - 29% ■ 25% - 29% ■ $\ge 30\%$

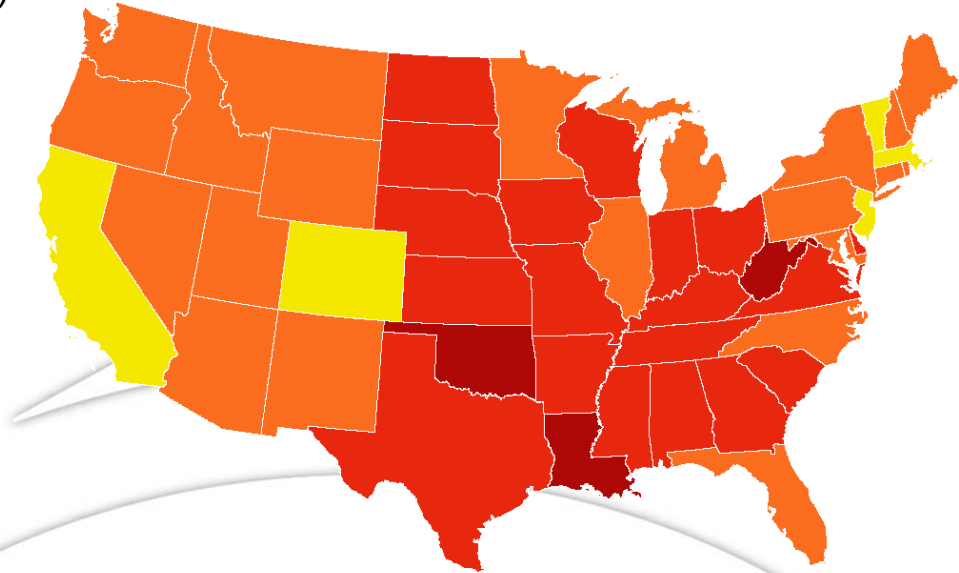


Problems associated with sleep apnea



Obesity - United States (adults)

2022



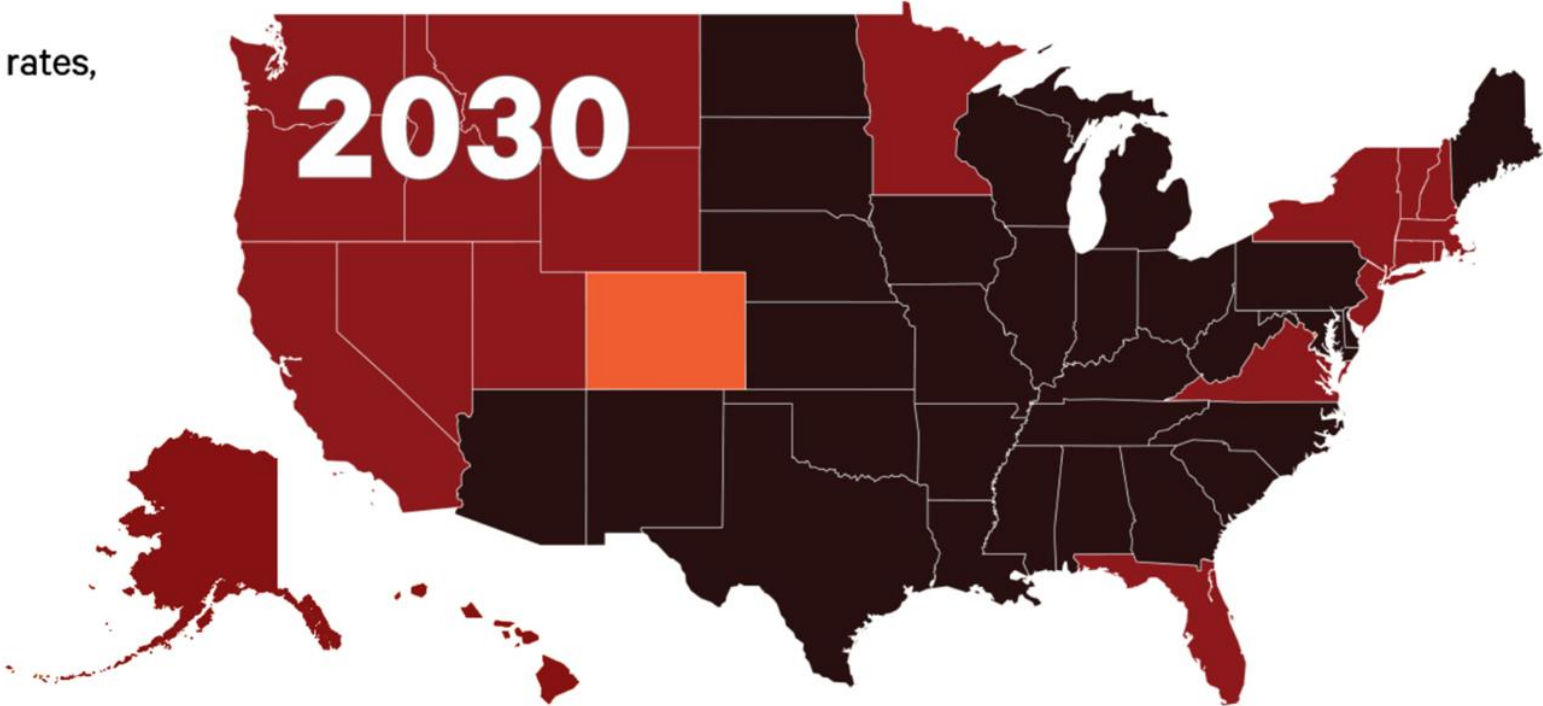
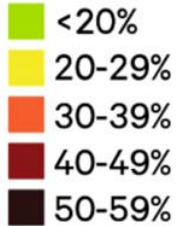
20% - <25% 25% - <30% 30% - <35% 35% - <40% 40% - <45% 45% - <50%



Problems associated with sleep apnea



U.S. Obesity rates,
1990-2030



Problems associated with sleep apnea: Hypertension



80% more chances to suffer from obstructive sleep apnea if taking 3 or more medications to treat hypertension

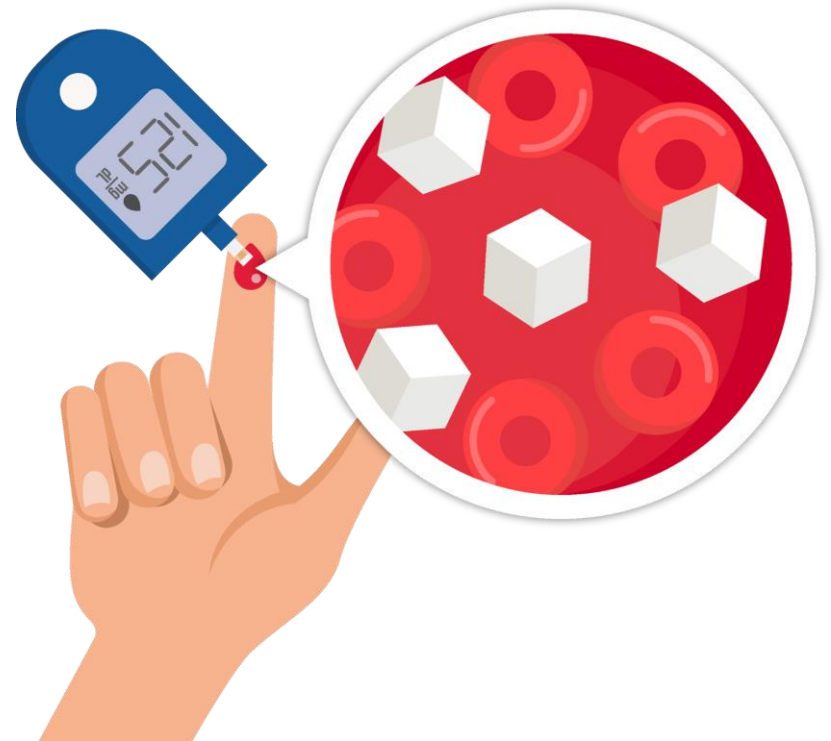
35% more chances if diagnosed with hypertension under 60 years old



Complications associated with sleep apnea: Type 2 diabetes

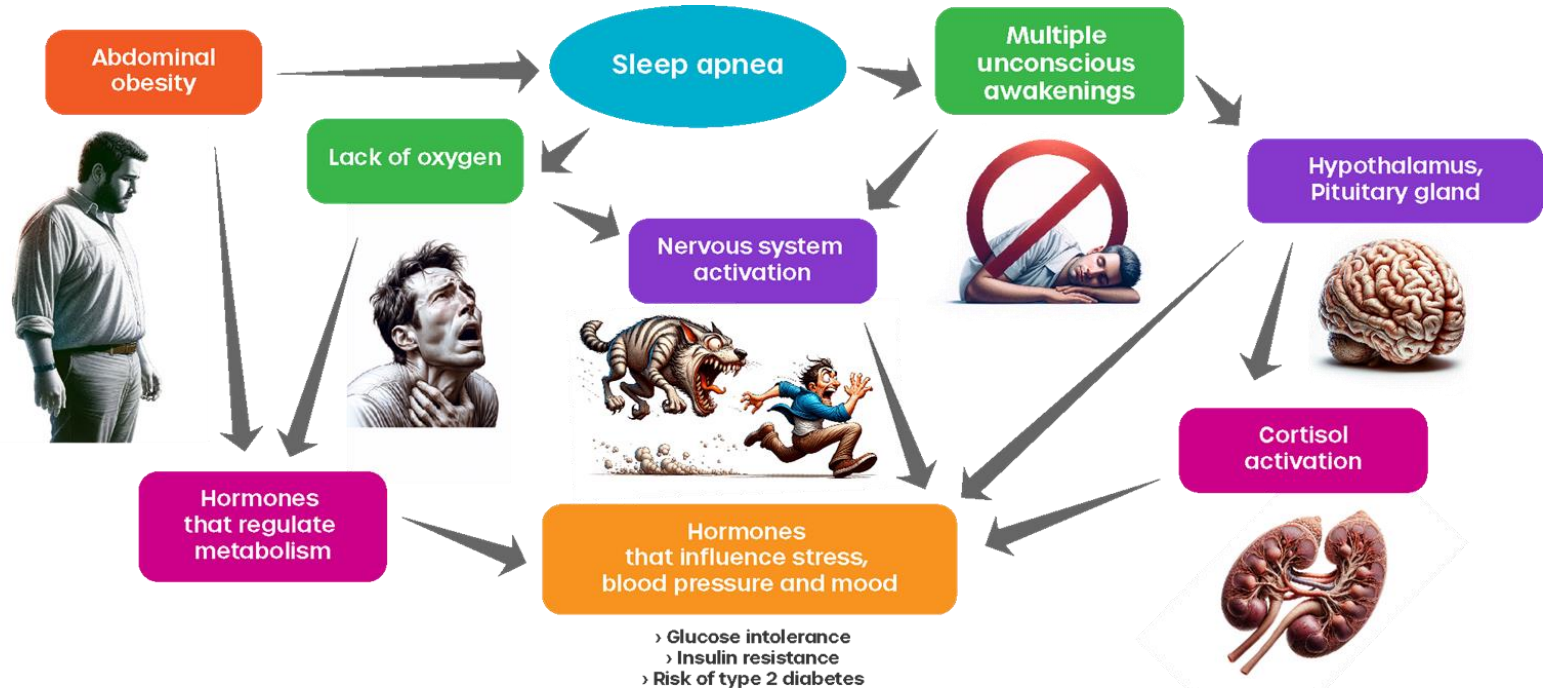


- Almost half (48%) of people diagnosed with type 2 diabetes have also been diagnosed with sleep apnea
- This risk increases in elderly people with type 2 diabetes reaching up to 58%
- Obesity is a significant aggravating factor: the prevalence of sleep apnea skyrockets to reach 86% among people with obesity and type 2 diabetes



The consequences of sleep apnea

The inflammatory response



SCREENING AND TREATMENTS FOR SLEEP APNEA



Monitor for at-home sleep apnea testing (level 3)



Monitor for polysomnography test in laboratory (PSG)



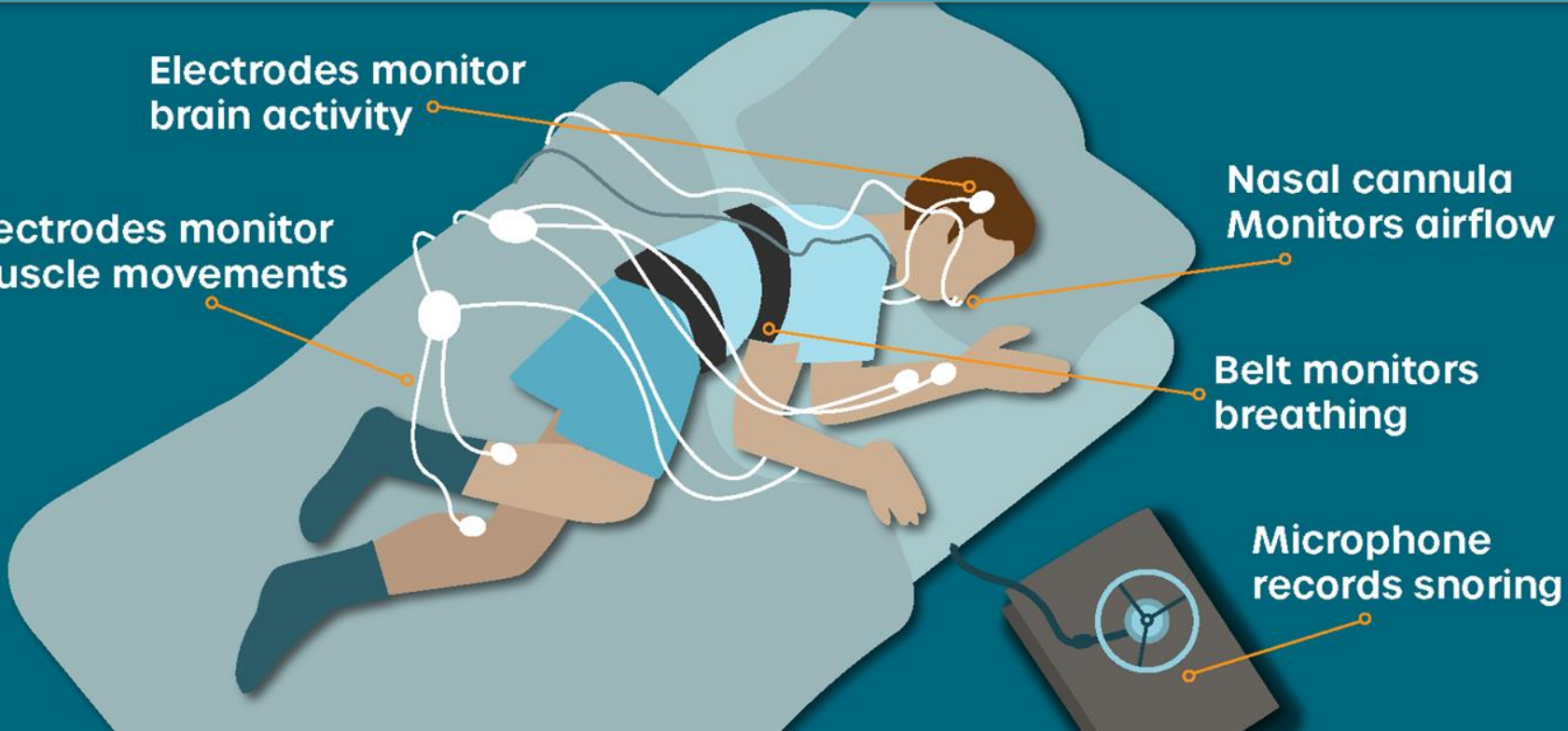
**Electrodes monitor
brain activity**

**Electrodes monitor
muscle movements**

**Nasal cannula
Monitors airflow**

**Belt monitors
breathing**

**Microphone
records snoring**



CPAP (Continuous Positive Airway Pressure)



CPAP Masks



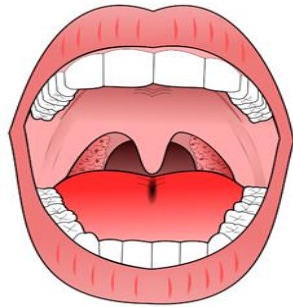
Mandibular Advancement Device



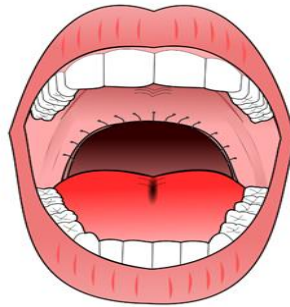
Allergy Control



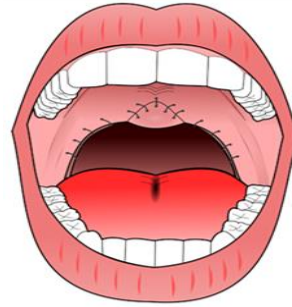
Surgeries



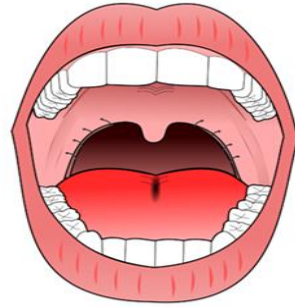
Pre-operative



Original UPPP



Modified UPPP



Minimal UPPP

Questions?

Thank you and sweet dreams!