

# Sleep Apnea:

**Don't Take It Lying Down**

Dr. Marquetta Flaugher,  
ARNP-BC,DSN

ACNP National Clinical  
Conference 2011

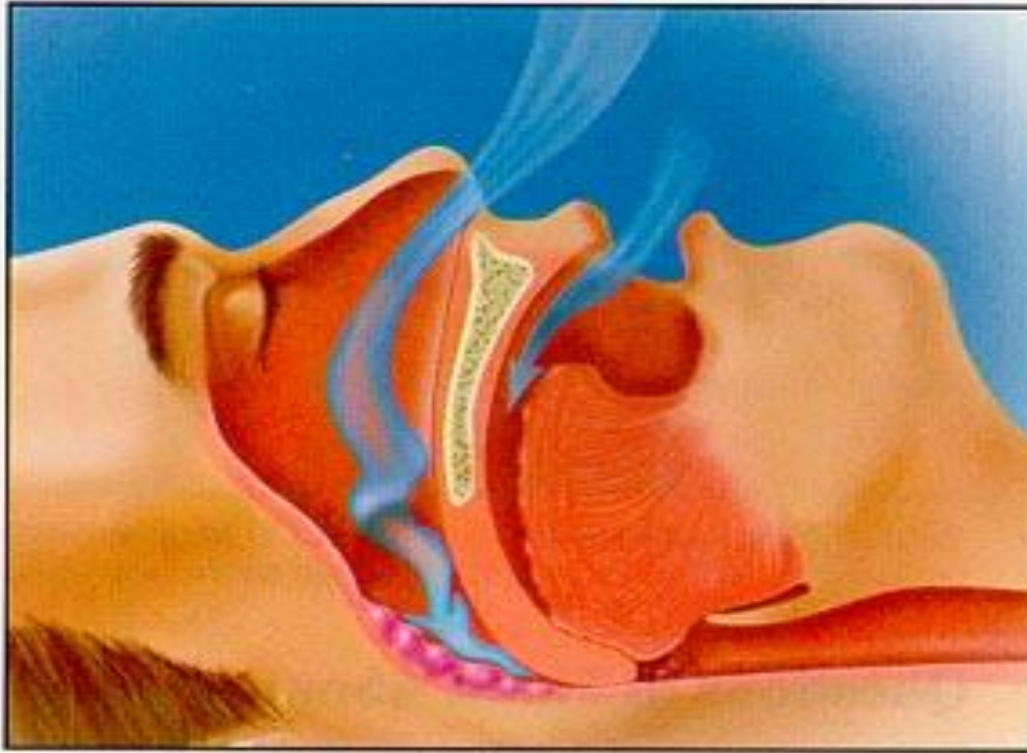


# Objectives

- Describe the physiological events of sleep apnea
- Discuss case studies of sleep apnea
- Review signs & symptoms of sleep apnea
- Explore treatment options for sleep apnea
- Discuss current research with sleep apnea

# What is OSA?

Abnormal respiratory pattern during sleep due to airway/pharyngeal obstruction



**During sleep apnea, air flow is completely blocked.**

# Description of Sleep Apnea Event

Upper airway obstruction

Intermittent obstruction: snoring

Complete obstruction

Decreased alveolar ventilation

Decreased alveolar  $PO_2$  ; increased alveolar  $PCO_2$

Decreased arterial  $PO_2$  ; increased arterial  $PCO_2$

Stimulation of arterial chemoreceptors; central chemoreceptors

Arousal

Levitsky, 2009

# Prevalence

**\*Under-recognized and undertreated in many adults**

26% of adults are at risk of OSA

Odds of having OSA increase with age

Smokers are 3X more likely to have OSA than non-smokers

OSA is 3X more prevalent in diabetics compared to general population

# Symptoms of OSA

- Snoring
- Witnessed apnea
- Choking
- Restlessness
- Nocturia
- Diaphoresis
- Reflux
- Dry mouth
- Nasal Congestion



# Additional Symptoms

- Poor Concentration
- Short Term Memory Deficits
- Weight gain
- Changes in Mood & Personality
- Diminished Productivity
- Increased auto accidents
- School Failures/Dropouts
- Mistakes/Accidents: Medical Practice
- Daytime Fatigue/Hyper-somnolence
- Sleep Interruptions
- AM Headaches

# Clinical Features on Assessment

- Enlarged neck
- Enlarged tongue/elongated uvula
- Thick soft palate “floppy”
- Increasing Age
- Obesity
- Craniofacial features



# Additional Items Evaluated in PSG

- Total Sleep Time / Sleep Onset
- # Apnea Events
- # Hyponea Events
- AHI
- RDI
- Mean/Max/Minimum O2 sats
- HR
- Bruxism
- PLMs

# Treatment of OSA

- Weight reduction
- Smoking cessation
- Avoid sleep deprivation
- Avoid supine position
- CPAP / BiPAP / APAP / additional PAPs
- Surgery
- Dental Appliances

**UPPP (Uvulopalatopharyngealplasty)**

**LAUP (Laser-Assisted Uvulopalatoplasty)**

**RFA (Radiofrequency Ablation)**

**Nasal Surgery**

**GBAT (Genial Bone Advancement Trephine)**

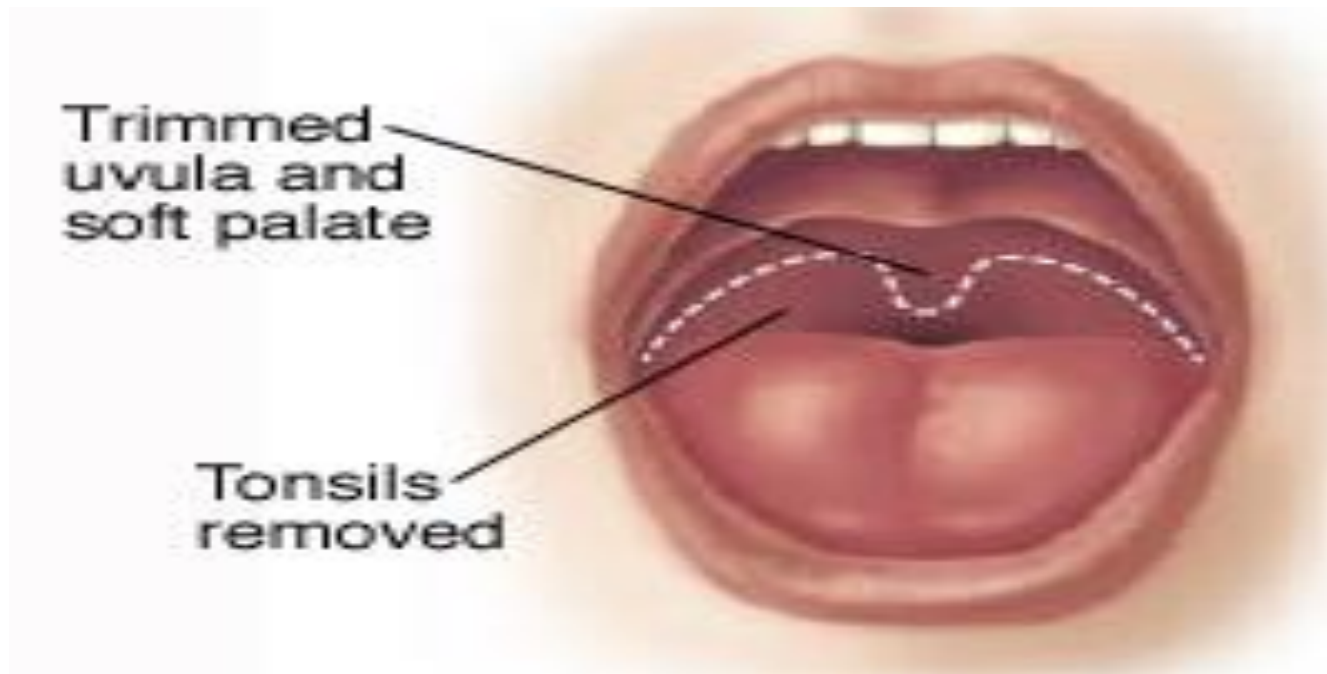
**Jaw Surgery**

**Palate Stent Placements**

# UPPP

## (Uvulopalatopharyngoplasty)

UPPP trims the uvula and removes other tissue from the back of the mouth.



# Health Issues related to NOT Treating OSA

- CV disease
- Elevated BP
- Stroke
- Heart Attack
- Irritability
- Poor concentration
- ST memory deficits/dementia
- Decreased libido

# Research

Relationship of Snoring & Atherosclerosis

Alzheimer's Disease & Sleep Apnea

Omega 3 and Sleep Apnea

Metabolic Disorders & Sleep Apnea



## New Therapies Underway

- Electrical Stimulation Implant
- OSA Drug Treatment



# Pearls:

- Drowsiness is Red Alert
- “When in doubt, pressurize the snout”
- Awake more than 16 hrs is red alert
- Maintain regular sleep schedule
- Fatigue = Sleepiness
- Simplify, Simplify: Remember, you don’t have to take Sleep Apnea Lying Down.



Remember, we all need our beauty sleep!

