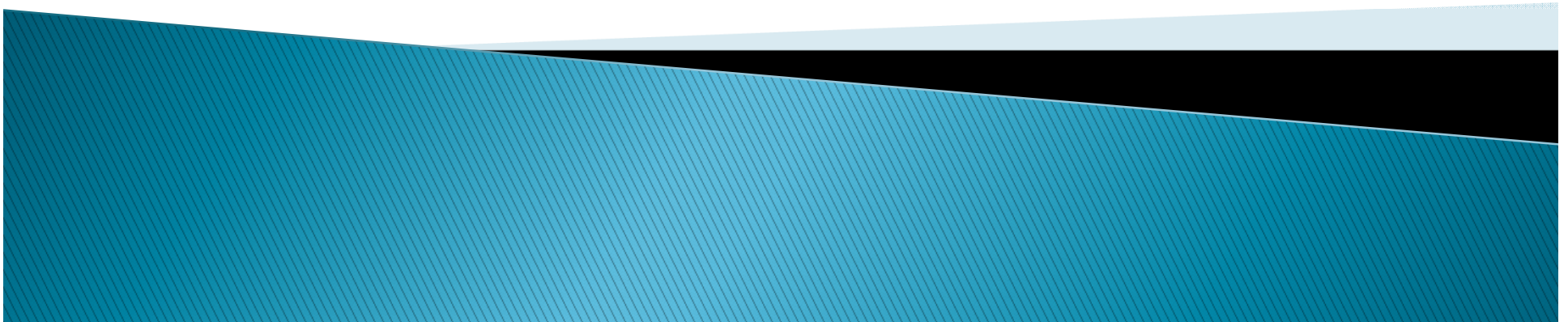


Sleep and Diabetes: What is All the Fuss About?

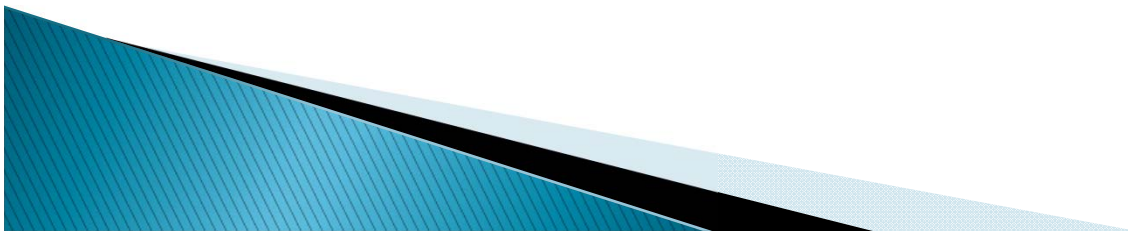
Cheryl Tannas, RN, MSN, CDE
DPAC – October 20, 2011



Sleep and Diabetes Relationship

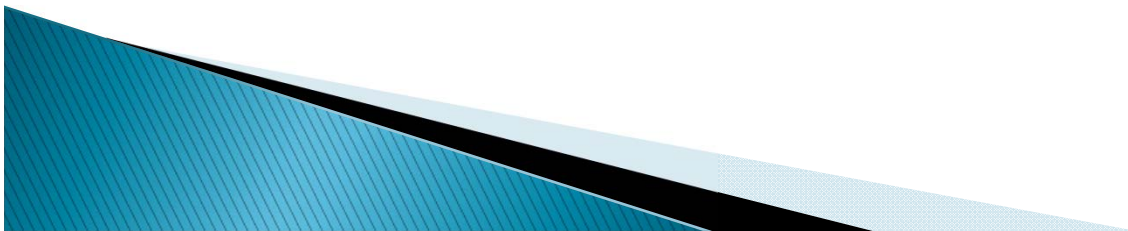
- ▶ Diabetes impacts sleep.

Peripheral neuropathy
Low blood sugar
High blood sugar



Sleep Impacts Diabetes

- ▶ During the past decade increasing research on the sleep and diabetes connection.
- ▶ Sleep as essential for people with diabetes as exercise and appropriate eating behaviors.



Sleep and Diabetes Relationship

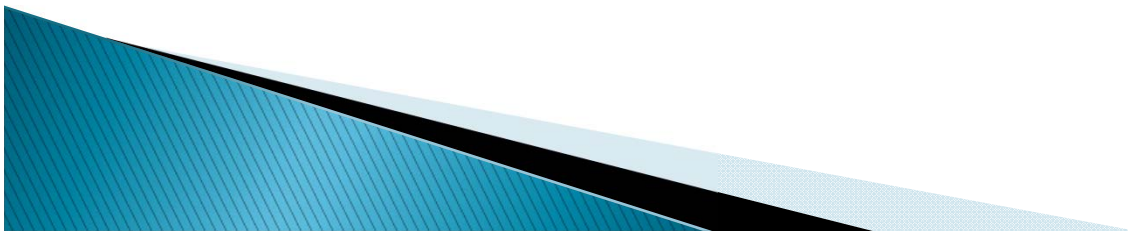
Sleep Duration

Sleep Quality



Decrease in sleep duration.

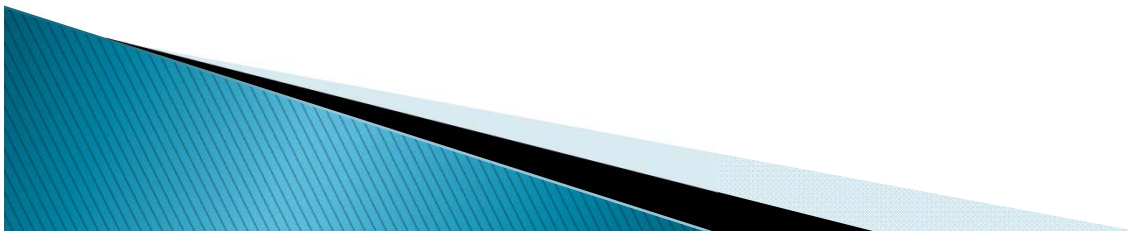
- ▶ 29% of US adults report sleeping less than 7 hours.
- ▶ Sleep and aging



Sleep Duration

- ▶ Recommended:

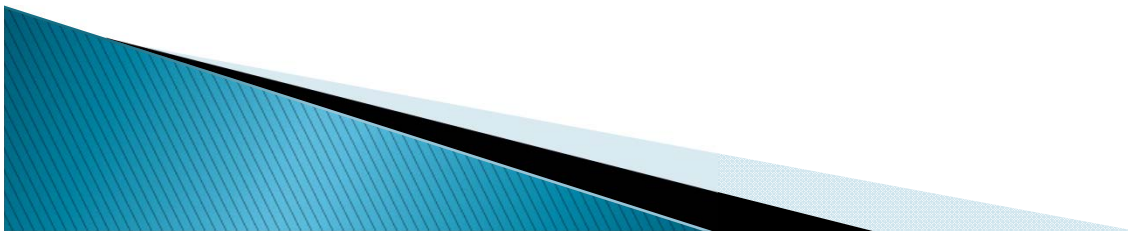
Seven hours of uninterrupted sleep.



Sleep Deprivation

Psychological impact

Physiological impact



Psychological Impact

- ▶ Performance

 - Memory

 - Car accidents

 - Falls

 - Decision making skills

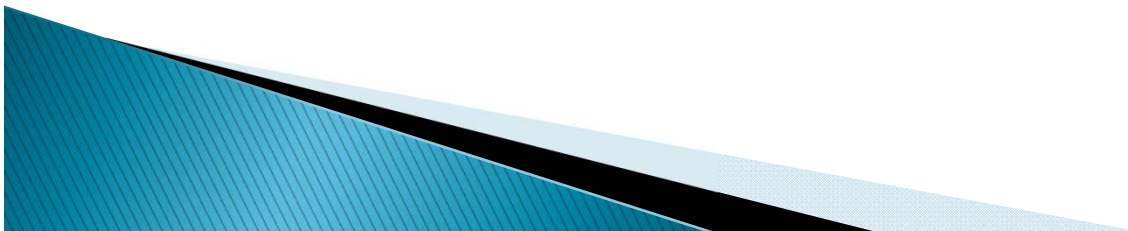
- ▶ Depression



Sleep Deprivation

Risk factor for developing type 2 diabetes.

Related to poor metabolic control



Glucose Tolerance Circadian Rhythm

- ▶ **Ability to maintain euglycemia.**

Normal glucose tolerance depends on beta cells to produce insulin.

As insulin sensitivity decreases, insulin secretion increases.

Diabetes develops when beta cells can no longer compensate.



Circadian Rythm

- ▶ Hormones

Cortisol

Growth Hormone

Insulin



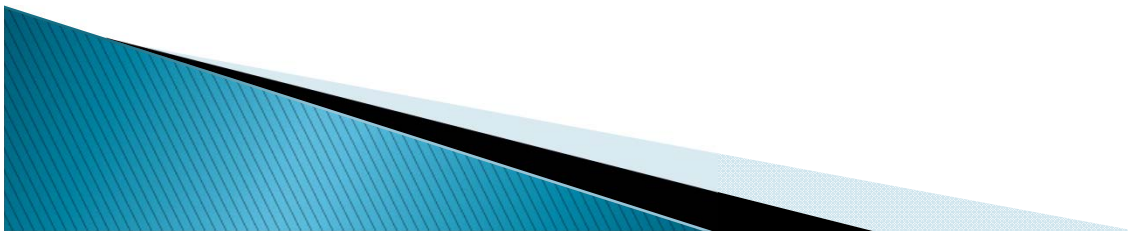
Physiological Relationship

- ▶ Insulin resistance.
- ▶ Impact on appetite.
- ▶ Impact on physical activity,



Sleep Quality

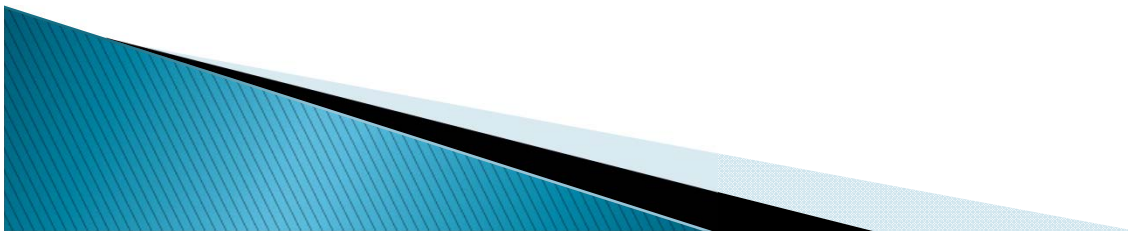
- ▶ Relationship to type 2 diabetes metabolic control.



Sleep Quality

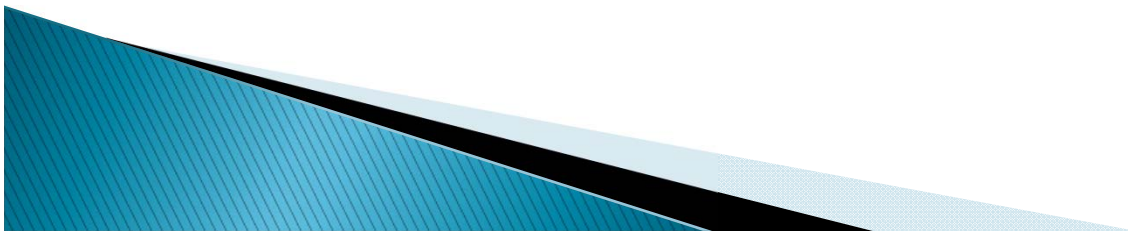
Shift workers

disrupted circadian rhythm



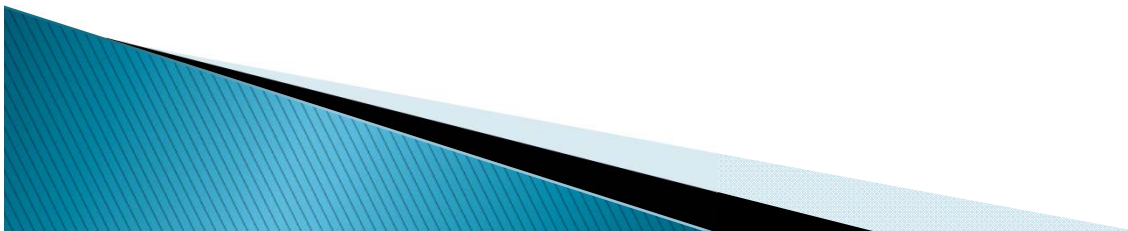
Sleep Disorders

- ▶ 300 of sleep diagnoses
- ▶ Approximately 88 sleep disorders



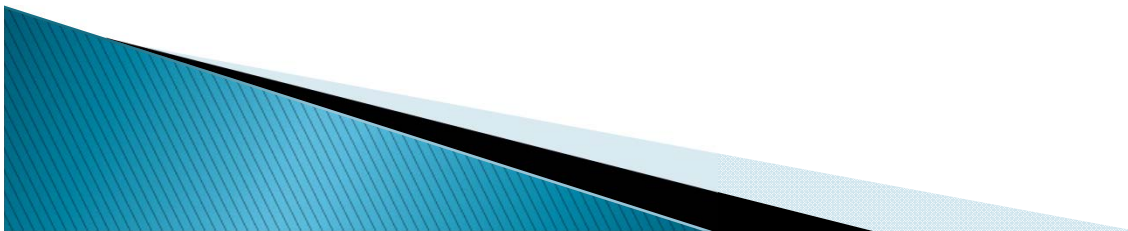
Sleep Apnea

- ▶ Obstructive Sleep Apnea
- ▶ Prevalence
- ▶ Severity



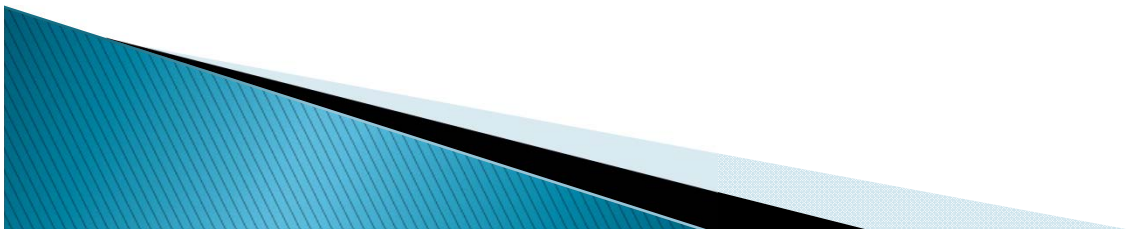
Complications of Sleep Apnea

- ▶ Increased Blood sugars for people with diabetes. (Increased insulin resistance)
- ▶ Independent risk for cardiovascular disease.
- ▶ Relationship to neuropathy.



OSA

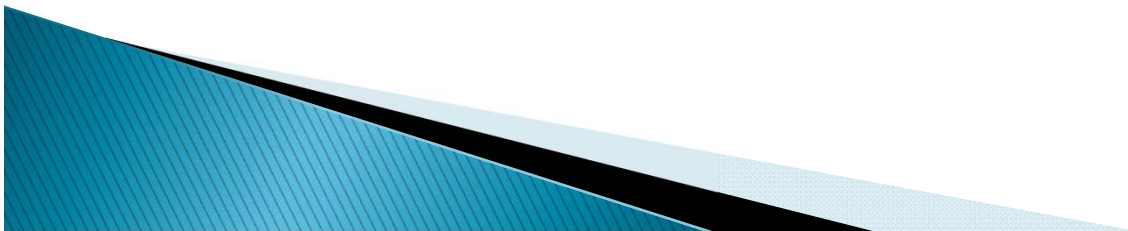
- ▶ Treatment:
- ▶ Oral devices
- ▶ Positional aides
- ▶ Surgery
- ▶ CPAP



Central Sleep Apnea

5% of sleep apnea persons.

Brain doesn't send proper signals to muscles that control breathing.



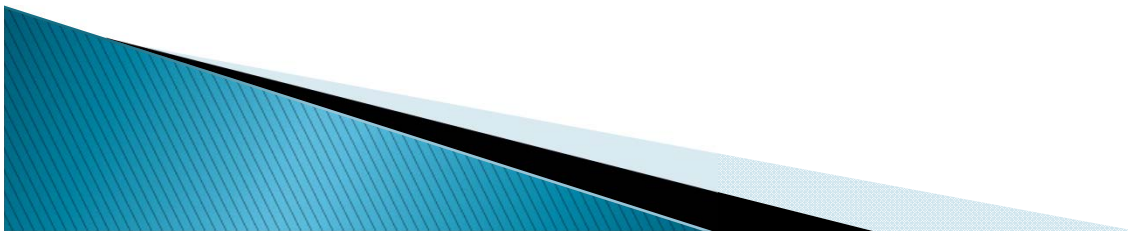
International Diabetes Federation

- ▶ Recommends:
- ▶ All persons with type 2 diabetes be screened for OSA
- ▶ All persons with OSA be screened for diabetes



Restless Legs Syndrome

- ▶ Symptoms
- ▶ Related to histamine use
- ▶ Treatment



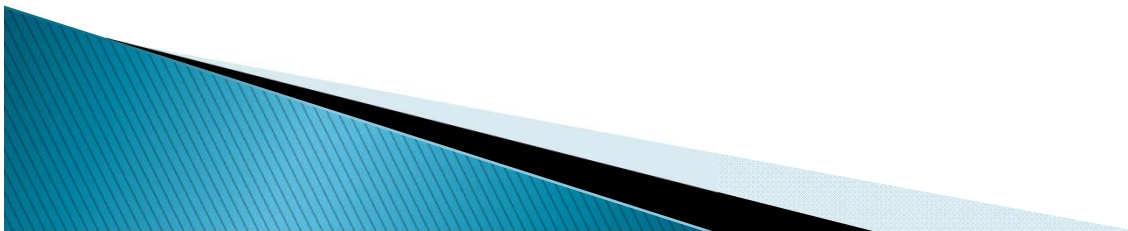
Insomnia

- ▶ Symptoms:

Difficulty getting to sleep.

Difficulty staying asleep.

Waking up too early and not able to get back to sleep.



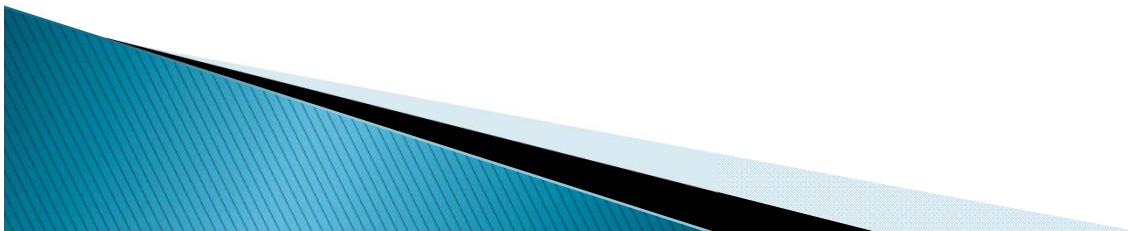
Insomnia

- ▶ Treatment:

Cognitive Behavioral Therapy for Insomnia

Hypnotics

Melatonin



Clinical Recommendations

Sleep assessment recommended as part of routine medical care.

Recommendations provided for those who are sleep deprived or report sleep disorder (s).

Referral to a sleep doctor as appropriate.





▶ Thanks and

• Sleep Well !!!!

