



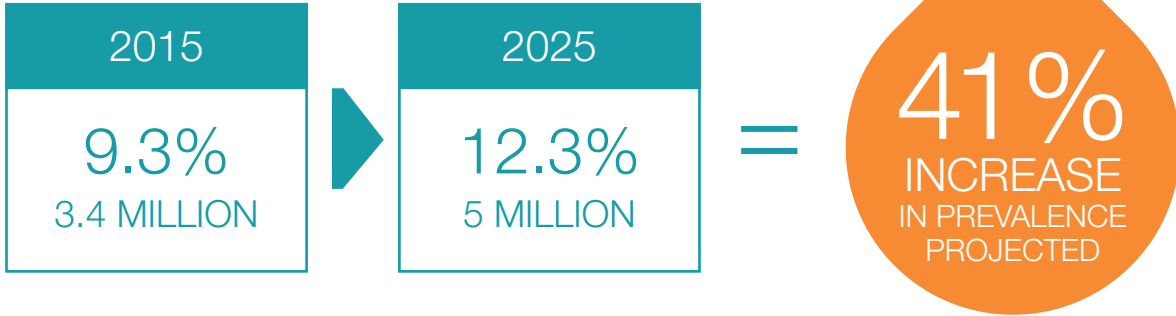
Obstructive Sleep Apnea and Type 2 Diabetes

Concurrent Treatment
Management

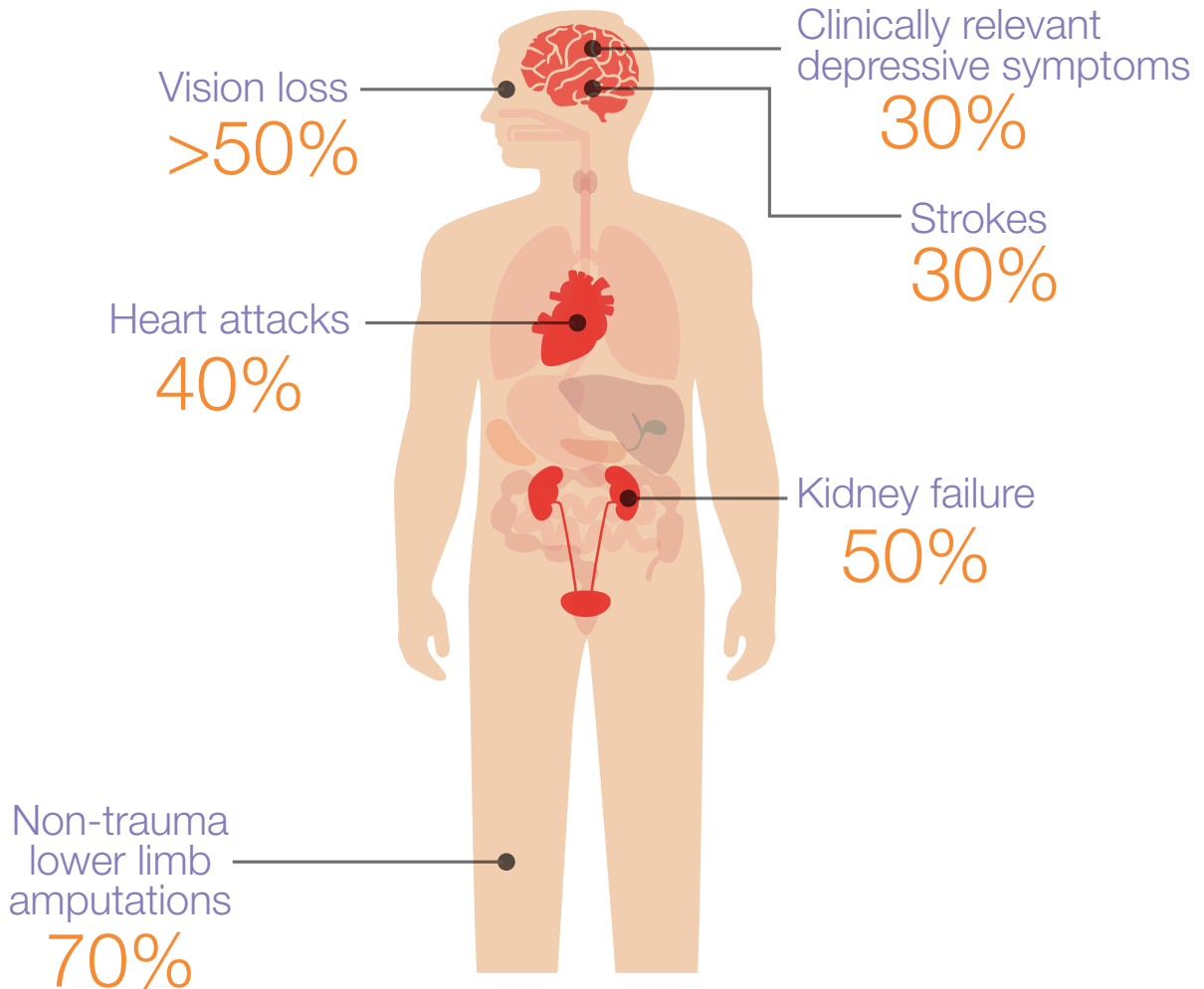


Diabetes prevalence is growing¹

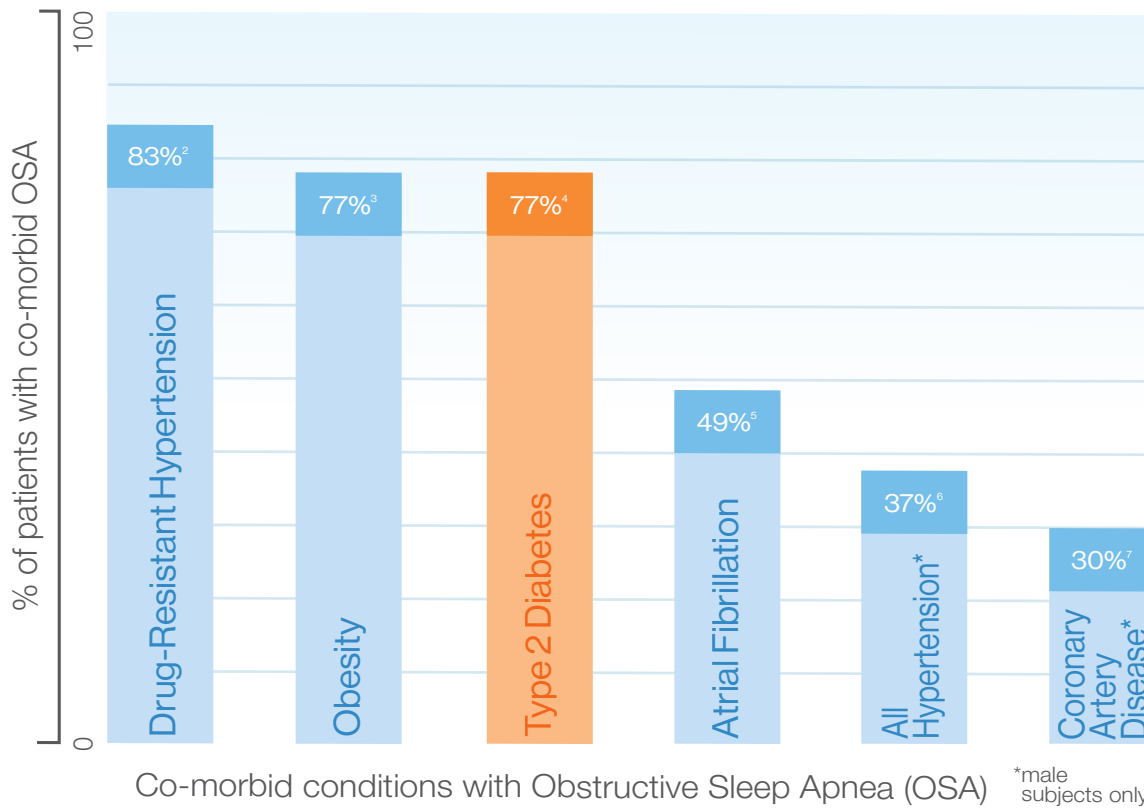
Canadians living with diabetes



Diabetes impacts many events¹

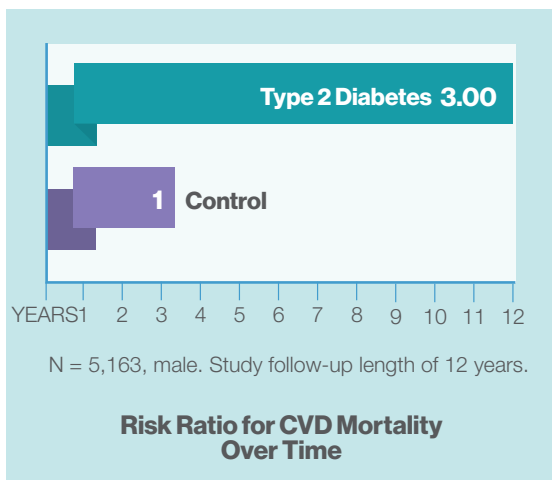


OSA co-morbid with many conditions

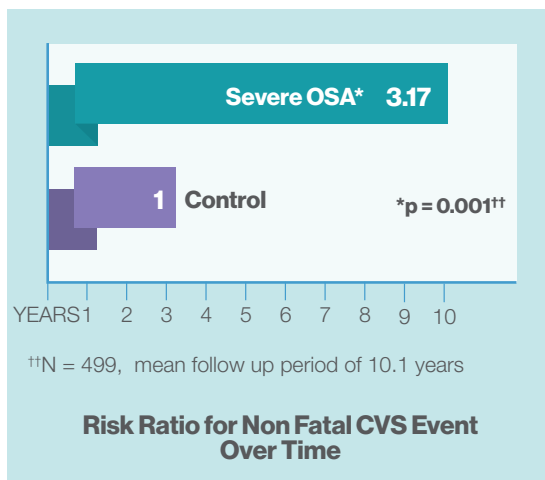


Negative impacts on cardiovascular health

Type 2 Diabetes Significantly Impacts Long Term Health Outcomes⁸

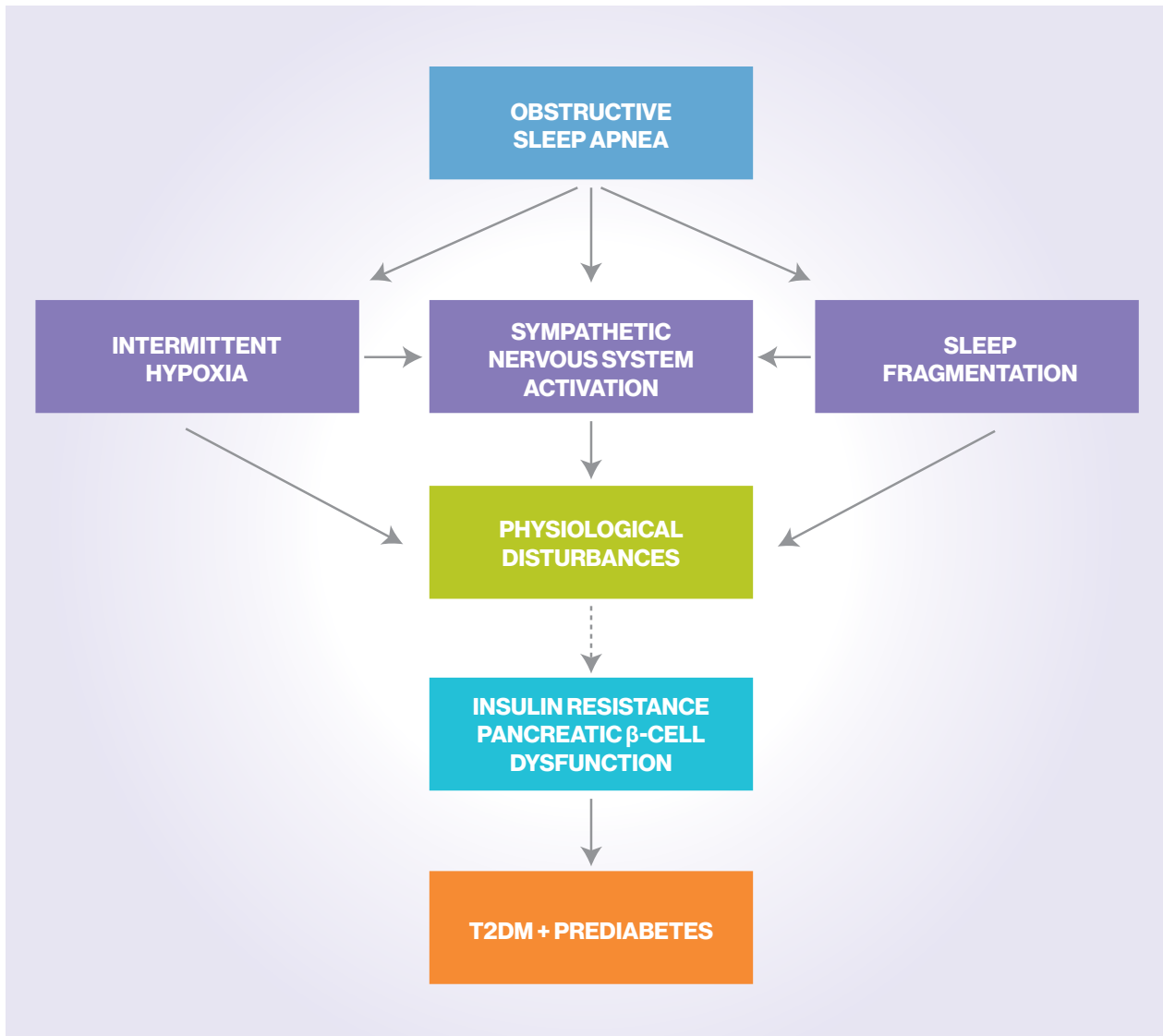


Untreated Sleep Apnea Significantly Impacts Long Term Health Outcomes⁹



OSA and Type 2 Diabetes Pathways¹⁰

- ▶ Obstructive Sleep Apnea (OSA) is an independent risk factor for T2DM¹⁰
- ▶ OSA is largely under diagnosed in the T2DM population



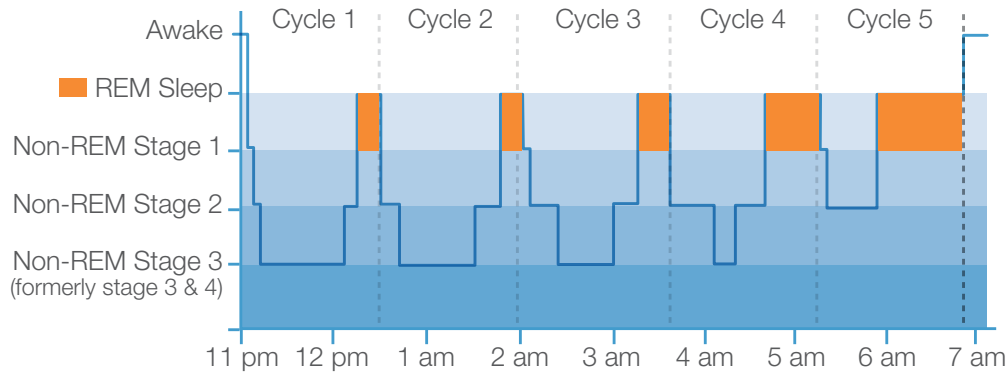
- ▶ Multiple physiological disturbances in OSA include:
 - Oxidative stress
 - Inflammatory pathways
 - HPA-axis alterations
 - Adipokine changes

These disturbances are associated with insulin resistance and T2DM

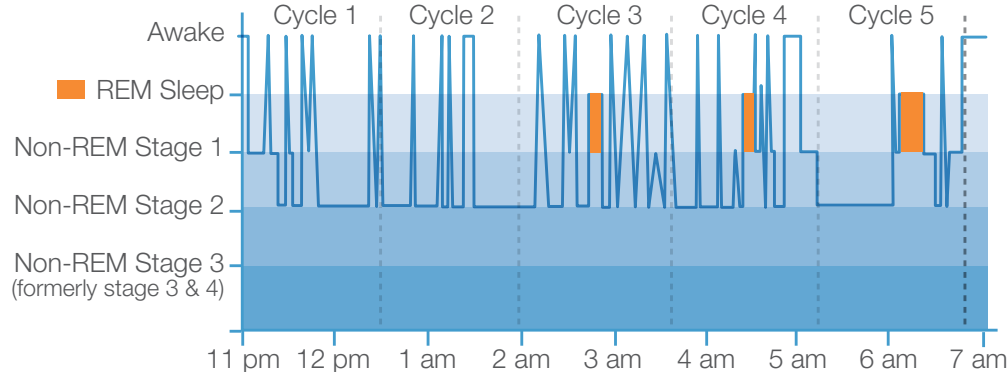
Importance of REM sleep (rapid eye movement)

- Emotional processing, memory formation and storage
- Learning and developing new skills
- Occurs every 60-90 minutes
- Heart rate and breathing quickens

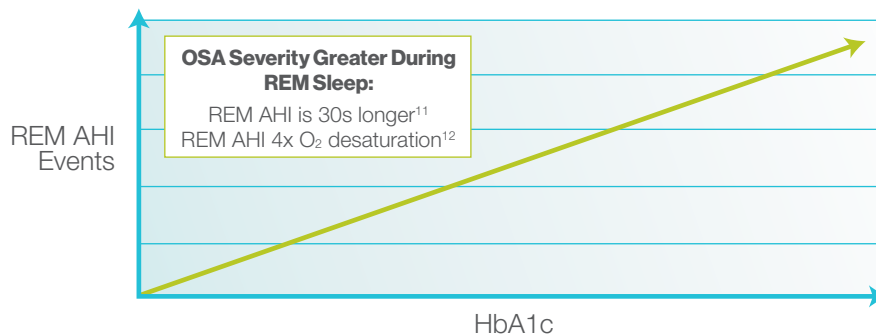
Healthy Sleep Cycle*



Effect of OSA on Healthy Sleep Cycle*



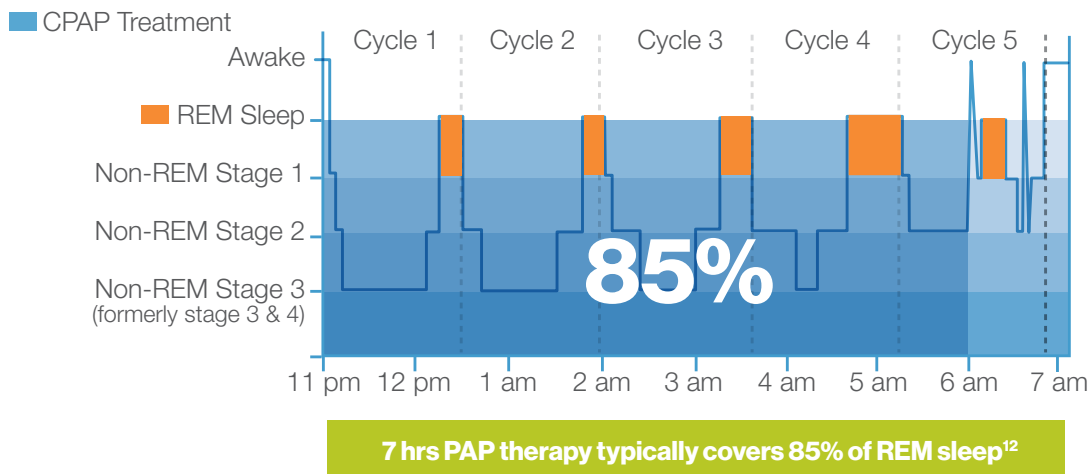
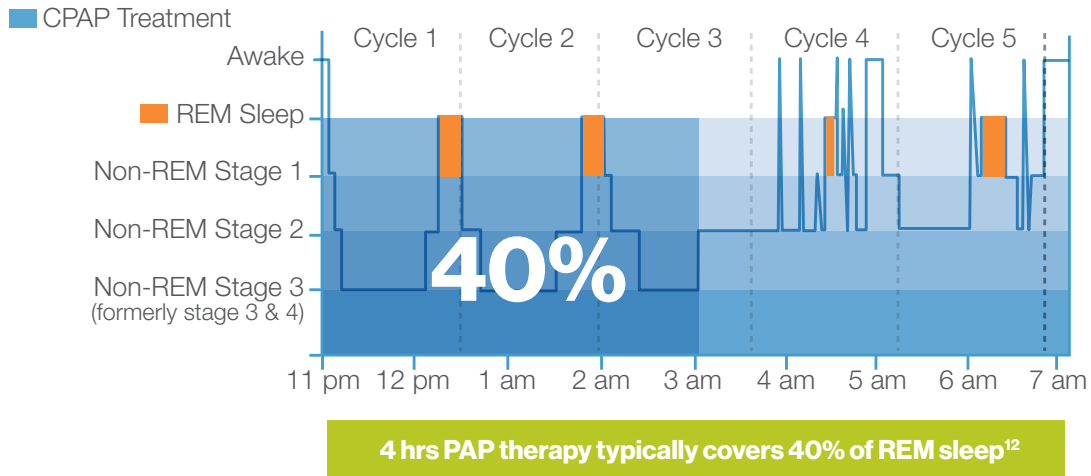
REM AHI Events Predictive of HbA1c^{12*}



*These graphs are representative and used for illustrative purposes.

Treat for the entire night

Importance of PAP therapy timing*



PAP THERAPY KEY FOR REM SLEEP

*These graphs are representative and used for illustrative purposes.

Don't miss treatment nights

Effect of 7 "Entire" Nights PAP Therapy on Plasma Glucose^{13†}

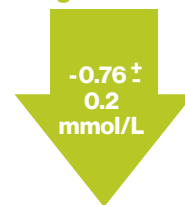
7.92 ± 0.8 h/night

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	✓ 1	✓ 2	✓ 3	✓ 4	✓ 5	✓ 6
✓ 7	8	9	10	11	12	13

†N = 19 with T2DM and OSA

p=0.01

Mean plasma glucose

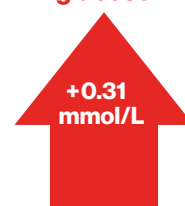


Effect of Missing 3 Nights of PAP Therapy^{14†}

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
	✓ 1	✓ 2	✓ 3	✓ 4	✗ 5	✗ 6
✗ 7	8	9	10	11	12	13

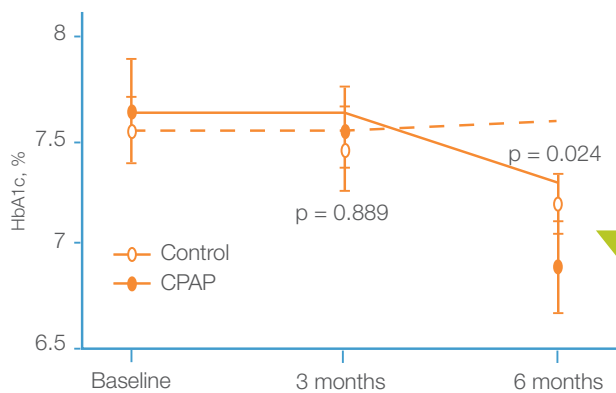
†N = 31 with Moderate-Severe OSA, CI 95%

Mean plasma glucose

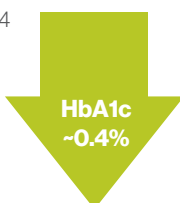


«Recurring exposure to these metabolic changes may foster diabetes and cardiovascular disease.»¹⁴

Treat over the long term^{15†}



†N = 50



PAP therapy > 6 months results in improved glycemic control and insulin resistance

OSA can be effectively treated in your patients with T2DM

3 principles guide our T2DM patient-centred care



as part of the VitalAire Sleep Health Commitment™



- Screen targeted T2DM patients
- Write an Rx for OSA testing and/or treatment at VitalAire

Leading through compliance.

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13. Mokhlesi B et al. Effect of one week of 8-hour nightly CPAP treatment of OSA on glycaemic control in type 2 diabetes: A proof-of-concept study. *American Journal of Respiratory and Critical Care Medicine* 2016; 194:516-520.
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15. Martinez-Ceron E et al. Effect of Continuous Positive Airway Pressure on Glycemic Control in Patients with Obstructive Sleep Apnea and Type 2 Diabetes. A Randomized Clinical Trial. *American Journal of Respiratory and Critical Care Medicine* 2016; 194: