SAVE
SLEEP APNEA CARDIOVASCULAR ENDPOINTS STUDY

The Sleep Apnea cardioVascular Endpoints study (SAVE)

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For the SAVE Investigators and Coordinators, on behalf of the SAVE Executive , Operations, and Advisory Committees

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Disclosures

- Personal disclosure: Research funding - Philips Respironics, AirLiquide, ResMed and National Health and Medical Research Council (NHMRC) of Australia
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Why did we do the study?

- Obstructive sleep apnea (OSA) *affects* 40-60% of patients with CV disease
- OSA *associated* with
  - elevated BP, insulin resistance and endothelial (blood vessel) dysfunction, and
  - increased CV morbidity and mortality
- RCT data lacking regarding the benefit of OSA treatment for CVD prevention

- STUDY AIM
  - To determine if CPAP treatment of moderate to severe OSA in patients with CV disease would reduce the incidence of future CV events
- STUDY DESIGN
  - Multinational, open-label Randomized Controlled Trial
    - CPAP +Usual Care *versus* Usual Care alone
    - Primary endpoint – composite of cardiovascular death, MI, stroke, hospitalization for TIA, unstable angina or HF
  - 2717 pts, 7 countries, followed for av. 3.7 years

Who did we study?

Patients

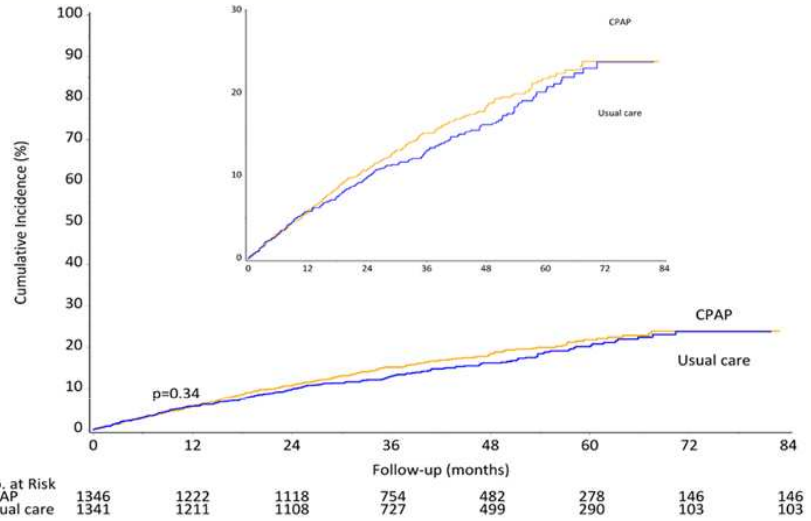
- Aged 45-75 years, with
- Coronary or cerebrovascular disease, and
- Moderate-severe OSA, who could
- Use a CPAP mask >3 h/night

Excluded those with

- Severe sleepiness/ risk of fall-asleep accident
- Very severe oxygen deprivation
- Advanced Heart Failure
- Central sleep apnea (Cheyne Stokes respiration)
- Prior CPAP use

What did we find?

- No effect of CPAP treatment on Primary (or secondary) CV endpoints
  - Trend toward reduction in cerebrovascular events in patients who used CPAP >4 hours per night
- CPAP improved patient well-being
  - Less snoring, less daytime sleepiness
  - Less depressed
  - Improved QoL
  - Fewer work days lost due to ill-health



Hazard ratio (95% CI)
1.10 (0.91 - 1.32)

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

CPAP for Prevention of Cardiovascular Events in Obstructive Sleep Apnea

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