

Impact of a Controlled Heated Breathing Tube Humidifier on Sleep Quality during CPAP Therapy in a Cool Sleeping Environment

Nilius G, Domanski U, Franke K-J, Ruhle K-H.
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KEY FINDINGS:

ThermoSmart® when compared with *conventional humidification* in this study showed:

- Improvement in patient sleep quality.
- Reduction in patient side effects.
- Virtually eliminated condensation, even in a cool sleeping environment.

AIM:

To compare the effect of *conventional humidification* with **ThermoSmart**® heated breathing tube humidification on sleep quality and patient symptoms.

METHODS:

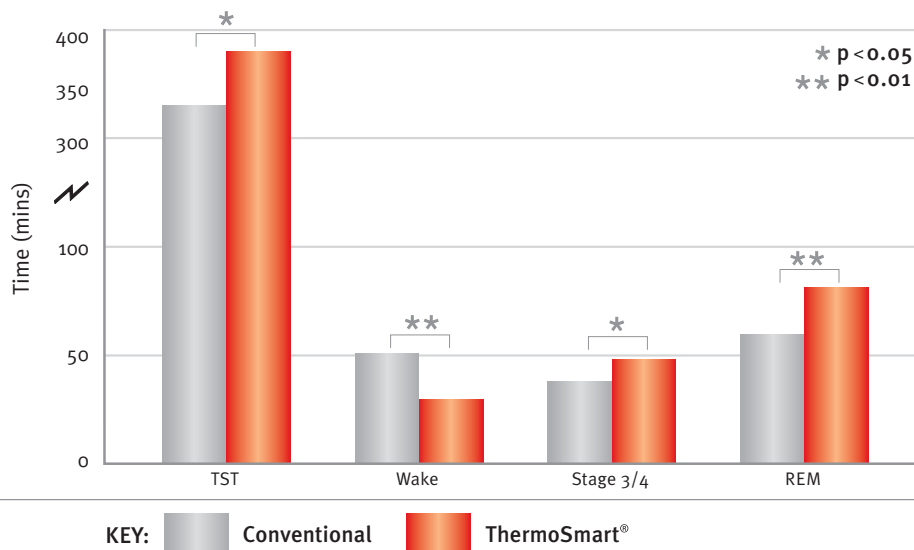
- 19 OSA patients, prospectively recruited.
- Patients underwent two full nights of polysomnography (PSG), in a cool room, whilst on CPAP at their predetermined therapeutic pressure. Their first night was randomized to either conventional heated humidification (*Fisher & Paykel Healthcare HC100*) or **ThermoSmart**® heated breathing tube humidification (*Fisher & Paykel Healthcare HC602*). Patients crossed over to the alternative treatment arm on their second night.
- PSG parameters were analyzed to determine the objective quality of sleep and subjective questionnaires were administered to determine patient symptoms/side effects of therapy.

RESULTS:

	CONVENTIONAL	THERMOSMART®	SIGNIFICANCE
❖ WATER IN SYSTEM:	35.3ml (±16.0)	1.9ml (±1.3)	p < 0.01
❖ SUBJECTIVE SYMPTOM SCORE:	20.7 (±6.9)	13.5 (±7.5)	p < 0.01

Table 1: Levels of condensate and subjective symptom scores in each treatment group

Quality of Sleep on Conventional and ThermoSmart® Humidification



CONCLUSION:

If condensation forms in the CPAP tubing system, sleep quality is considerably reduced. When using CPAP therapy in a cool room, the use of a heated humidifier with a heated breathing tube improves sleep quality and subjective symptom scores.

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