

Jab-free snore reminder is gently delivered via pillow

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(Phys.org) —Those sleep partners who are irritated enough to jab and those snoring victims who are startled out of sleep by those jabs all know there has to be a more humane way of curbing the noise. Could one answer lie in a special pillow? Available from Hammacher Schlemmer, a product's title leaves little guesswork as to what it hopes to accomplish. This is the Snore Activated Nudging Pillow. Once it detects snoring, it is designed to gently nudge the sleeper to change positions. The pillow's built-in microphone listens for snoring. The pillow then inflates an internal air bladder. This has the gentle nudging effect of making the snorer shift position, either by rolling over to his or her other side or simply moving the head. The mere elevation may open up a person's airways to stop the snoring.

Snorers come in all shapes, sizes, and volume levels; the pillow allows a user to adjust the microphone for light or heavy [snoring](#); the air bladder can be manually inflated to a desired thickness between four inches and seven inches. It automatically deflates back to its original thickness. Also, the device has a 30-minute delay setting that allows one to fall asleep without triggering inflation. The device can fit into AC with a 68"-long adapter, which is included. Hammacher Schlemmer shows a price of \$149.95.

Interestingly, a paper in past years for the Biomedical Engineering and Informatics (BMEI), International Conference "A Development of Pillow for Detection and Restraining of Snoring," discussed the effects of specially designed pillows for those who suffer from snoring, a symptom of [sleep apnea](#) or, as formally defined in the paper, the breathing noise caused by coupled oscillation of the walls of the airway as the air passes through. The authors used a pillow, with [contact](#) microphones to detect snoring sounds, and an inflating air bladder inside the pillow. They also used a regular foam pillow for the study nights. The results were impressive. The longest snoring episodes were reduced down to 43.8 percent with the use of the developed pillow; the authors

stated that the volunteer underwent much less snoring with the developed pillow.



Another paper, "A Real-time Auto-adjustable Smart Pillow System for Sleep Apnea Detection and Treatment," published in IPSN '13-Proceedings of the 12th International Conference on Information Processing in Sensor Networks, confronted the topic of sleep apnea,

which they defined as a common sleep disorder characterized by the repetitive cessation of breathing during sleep. The researchers were interested in the concept of a smart pillow. "In this paper," they wrote, "we propose and implement a smart phone-based auto-adjustable pillow [system](#), which enables both sleep apnea detection and treatment. Sleep apnea events can be detected in real-time using the blood oxygen sensor, accordingly, the height and shape of the pillow can be automatically adjusted to terminate the sleep apnea event." The authors proposed a sleep apnea detection and classification algorithm to decide if the pillow should be adjusted or not. They also designed a feedback pillow adjustment algorithm, to decide when and how to adjust the [pillow](#) and how to evaluate the effectiveness of the adjustment.

More information: [Online](#)

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