DEVICE FOR CALCULATING RESPIRATORY WAVEFORM INFORMATION AND MEDICAL INSTRUMENT USING RESPIRATORY WAVEFORM INFORMATION

ABSTRACT

Provided is a configuration capable of executing a detection test for a comfort level including the quality of sleep, which is measurable at home without requiring the measurement of brain waves or electrocardiogram. The respiratory waveform of a subject during sleep is continuously measured and recorded from the respiratory gas flow, etc., and is window-Fourier transformed at each measurement time to generate a frequency spectrum, and a bandwidth including a respiratory frequency is extracted. The index indicating the regularity of the respiratory period of the subject is also calculated at each time point during the sleep, and the time-dependency of this index during the sleep is represented as a graph. A medical device includes a sleep evaluation system equipped with a control means for performing control so that a sleep cycle repeated at a cycle of about 90 minutes is clearly observed if the comfort level including the quality of sleep of the subject is favorable.

(Fig. 1)

DEVICE FOR CALCULATING RESPIRATORY WAVEFORM INFORMATION AND MEDICAL INSTRUMENT USING RESPIRATORY WAVEFORM INFORMATION

ABSTRACT

Provided is a configuration capable of executing a detection test for a comfort level including the quality of sleep, which is measurable at home without requiring the measurement of brain waves or electrocardiogram. The respiratory waveform of a subject during sleep is continuously measured and recorded from the respiratory gas flow, etc., and is window-Fourier transformed at each measurement time to generate a frequency spectrum, and a bandwidth including a respiratory frequency is extracted. The index indicating the regularity of the respiratory period of the subject is also calculated at each time point during the sleep, and the time-dependency of this index during the sleep is represented as a graph. A medical device includes a sleep evaluation system equipped with a control means for performing control so that a sleep cycle repeated at a cycle of about 90 minutes is clearly observed if the comfort level including the quality of sleep of the subject is favorable.

(Figure 1)