

(12) **United States Patent**
Hatlestsad et al.

(10) **Patent No.:** **US 7,422,560 B2**
(45) **Date of Patent:** **Sep. 9, 2008**

(54) **DETECTION OF CONGESTION FROM MONITORING PATIENT RESPONSE TO A RECUMBENT POSITION**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **11/926,425**

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(22) Filed: **Oct. 29, 2007**

(65) **Prior Publication Data**

US 2008/0045852 A1 Feb. 21, 2008

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Related U.S. Application Data

(57)

ABSTRACT

(62) Division of application No. 11/619,821, filed on Jan. 4, 2007, which is a division of application No. 10/267,982, filed on Oct. 9, 2002, now Pat. No. 7,226,422.

Systems and methods obtain information that allows detection of whether a patient suffers from congestion by monitoring a response of the patient to a recumbent position of the patient’s body. The patient may be monitored to determine a respiration pattern for a non-recumbent position such as standing and a respiration pattern for a recumbent position such as lying down. The two patterns may be compared, either by a processing device or a physician, to determine a difference in the two respiration patterns. Furthermore, the congestion may be inferred from detecting an amount of time that the patient spends in a recumbent position or from detecting the recumbent angle that the patient obtains, either of which is presumed to indicate whether a recumbent position presents discomfort to the patient due to the presence of congestion.

(51) **Int. Cl.**
A61B 5/00 (2006.01)
A61B 5/02 (2006.01)

(52) **U.S. Cl.** **600/300; 600/534; 600/547; 600/481**

(58) **Field of Classification Search** None
See application file for complete search history.

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22 Claims, 7 Drawing Sheets

