

CLAIMS

1. A biological condition determining apparatus for determining a biological condition of a subject on a bed, the apparatus comprising:

a plurality of load detectors which are placed in the bed or under feet of the bed and which detect a load of the subject;

a respiration information extracting unit which extracts respiration information from an output of the load detector;

a determining unit which determines a respiratory condition of the subject by comparing the extracted respiration information with a referential information prepared beforehand; and

an output unit which outputs the respiratory condition of the subject determined by the determining unit.

2. The biological condition determining apparatus according to claim 1, further comprising a body posture identifying unit which obtains a body posture of the subject based on outputs of the load detectors, wherein the output unit outputs the body posture of the subject obtained by the body posture identifying unit.

3. The biological condition determining apparatus

according to claim 2, further comprising an associating unit which associates the respiratory condition of the subject determined by the determining unit with the body posture of the subject obtained by the body posture identifying unit.

4. The biological condition determining apparatus according to claim 2 or 3, wherein the output unit outputs the obtained body posture of the subject by using an image imitating a human body shape.

5. The biological condition determining apparatus according to any one of claims 1 to 4, wherein the determining unit determines whether the respiratory condition of the subject is an ordinary respiratory state, a snoring state, or an apneic state.

6. The biological condition determining apparatus according to any one of claims 1-5, wherein the respiration information is a waveform exhibiting a temporal variation, of the output of the load detector, depending on a respiration of the subject, and the referential information is a waveform denoting the respiratory condition of the subject.

7. The biological condition determining apparatus according to any one of claims 1 to 6, further comprising:

a storage unit which stores the referential information;

an information collecting unit which associates the respiration information used in the determining unit to determine the respiratory condition of the subject with a determination result of the determining unit so as to create an update information; and

an information editing unit which modifies the referential information based on the update information.

8. The biological condition determining apparatus according to any one of claims 1 to 7, further comprising a notifying unit which performs a notification based on a determination result of the determining unit.

9. A method for determining a biological condition of a subject on a bed by using a biological condition determining apparatus, the method comprising:

detecting a load of the subject by using a plurality of load detectors placed in the bed or under feet of the bed;

extracting respiration information from an output of the load detector by using a respiration information extracting unit; and

determining a respiratory condition of the subject by comparing the extracted respiration information with a referential information prepared beforehand, by using a

determining unit.

10. The method according to claim 9, further comprising obtaining a body posture of the subject by using a body posture identifying unit based on outputs of the load detectors.

11. The method according to claim 10, further comprising associating the determined respiratory condition of the subject with the obtained body posture of the subject, by using an associating unit.