

We claim:

1. An apparatus for measuring biocapacitance of tissue, the apparatus comprising:
a sensor comprising two electrodes,
5 a movable element coupled to the sensor,
a switch disposed between the movable element and a fixed element and configured
to electrically close when a gap between the movable element and the fixed
element is less than or equal to a pre-determined value,
a device coupled to the sensor and configured to make a measurement of a
10 capacitance between the two electrodes, and
a processor coupled to the switch and to the device and configured to receive the
measurement from the device when the switch electrically closes.
2. The apparatus of claim 1, wherein the electrodes are configured such that an electric field
between the electrodes penetrates into the tissue when the sensor is positioned proximate
15 to the tissue.
3. The apparatus of claim 1, wherein the device is configured to repeatedly measure the
capacitance between the two electrodes at a pre-determined interval.
4. The apparatus of claim 1, wherein the sensor further comprises an insulating cover layer
coupled to the electrodes, and wherein the insulating cover layer is configured to prevent
20 conductive contact between the electrodes and the tissue when the sensor is positioned
proximate to the tissue.
5. The apparatus of claim 1, wherein the measurement comprises a comparison of the
capacitance between the electrodes, and that of a reference capacitor.
6. The apparatus of claim 5, wherein the comparison comprises use of a sigma-delta method
25 of comparing the capacitance between the electrodes to that of the reference capacitor.
7. The apparatus of claim 1, further comprising:
a visual indicator coupled to the processor, wherein the processor is further
configured to activate the visual indicator upon closure of the switch.

8. The apparatus of claim 1, wherein:
the movable element is configured to move along a translation axis with respect to the
fixed element, and
the gap is disposed on the translation axis.
- 5 9. The apparatus of claim 8, further comprising a spring positioned between the movable
element and the fixed element and configured to provide a monotonically increasing force
along the translation axis to separate the moving element and the fixed element.
10. The apparatus of claim 8, wherein the movable element is further configured to allow
rotation about at least one of a first rotation axis that is perpendicular to the translation
10 axis and a second rotation axis that is perpendicular to both the translation axis and the
first rotation axis.
11. The apparatus of claim 1, wherein the processor is further configured such that after a
first measurement is received upon a first closure of the switch, the switch is to be
electrically opened before a second measurement may be received.
- 15 12. An apparatus for measuring biocapacitance of tissue, the apparatus comprising:
a sensor comprising two electrodes,
a device coupled to the sensor and configured to make a measurement of a
capacitance between the two electrodes,
a barcode scan engine configured to optically scan a machine-readable image and
20 determine a first alphanumeric string that is encoded in the machine-readable
image,
a processor coupled to the device and the engine and configured to receive the
measurement from the device and to receive the first alphanumeric string from the
engine.
- 25 13. The apparatus of claim 12, wherein the processor is further configured to:
receive a plurality of sequential alphanumeric strings,
associate each of the sequential alphanumeric strings with one of a patient, a user, an
observation, an intervention, a consumable element, a durable element, a location,
and a time.
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14. The apparatus of claim 13, wherein the processor is further configured to:
associate the first alphanumeric string of a patient with the sequential alphanumeric strings.
15. The apparatus of claim 13, wherein the processor is further configured to:
5 transfer the associated alphanumeric strings to a data system.
16. A method of measuring biocapacitance of tissue, the method comprising:
positioning a sensor that comprises a first electrode and a second electrode against a patient's skin over the tissue,
measuring a capacitance between the two electrodes,
10 optically scanning a primary machine-readable image that is associated with the patient,
determining a primary alphanumeric string that is encoded in the primary machine-readable image, and
associating the capacitance with the primary alphanumeric string.
- 15 17. The method of claim 16, further comprising:
optically scanning one or more secondary machine-readable images associated with one of a user, an observation, an intervention, a consumable element, a durable element, a location, and a time,
determining secondary alphanumeric strings that are respectively encoded in each of
20 the one or more secondary machine-readable images, and
associating the secondary alphanumeric strings with the primary alphanumeric string.
18. The method of claim 17, further comprising:
transferring the primary and secondary alphanumeric strings to a data system.

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