CLAIMS

1. A sensor patch for detecting extravasation, the sensor patch comprising:

an elastic film; and

at least one sensing electrode disposed on the elastic film,

wherein the at least one sensing electrode comprises a piezoresistive material,

wherein the at least one sensing electrode is configured so that an electrical resistance of the at least one sensing electrode is changeable in response to a force acting on the at least one sensing electrode; and

wherein the at least one sensing electrode is a single layer of metal printed on the elastic film, the layer of a thickness of less than 0.2 μm.

2. The sensor patch as claimed in claim 1, wherein the elastic film is adapted to conform to a contour of a surface on which the sensor patch is positioned.

3. The sensor patch as claimed in claim 1, wherein the sensor patch is stretchable.

4. The sensor patch as claimed in claim 1, wherein the at least one sensing electrode comprises a strain gauge.

5. The sensor patch as claimed in claim 1, further comprising an adhesive layer provided on one side of the elastic film.

6. The sensor patch as claimed in claim 5, wherein the at least one sensing electrode is disposed on another side of the elastic film opposite to the one side of the elastic film.

7. The sensor patch as claimed in claim 1, further comprising at least one pair of bonding pads electrically coupled to the at least one sensing electrode.

8. The sensor patch as claimed in claim 1, wherein the at least one sensing electrode is formed into an arrangement having at least one of a linear pattern, a curved pattern, a meander pattern, a zig zag pattern or a spiral pattern.

9. The sensor patch as claimed in claim 1, wherein a width of the at least one sensing electrode is between about 0.5 mm and about 10 mm.

10. The sensor patch as claimed in claim 1, wherein the electrical resistance of the at least one sensing electrode is changeable in response to at least one of a normal force or a shear force acting on the at least one sensing electrode.

11. The sensor patch as claimed in claim 1, wherein the electrical resistance of the at least one sensing electrode is changeable in response to one or more forces acting on the at least one sensing electrode in x-, y- and z-directions of a three-dimensional Cartesian coordinate system.

12. The sensor patch as claimed in claim 1, wherein the sensor patch comprises a plurality of sensing electrodes.

13. The sensor patch as claimed in claim 1, wherein the sensor patch is a planar sensor patch.

14. The sensor patch as claimed in claim 1, wherein the thickness of the metal layer is at least substantially uniform throughout the at least one sensing electrode.

15. A sensing device comprising:

a sensor patch for detecting extravasation, the sensor patch comprising:

an elastic film; and

at least one sensing electrode disposed on the elastic film, wherein the at least one sensing electrode comprises a piezoresistive material,

wherein the at least one sensing electrode is configured so that an electrical resistance of the at least one sensing electrode is changeable in response to a force acting on the at least one sensing electrode; and

wherein the at least one sensing electrode is a single layer of metal printed on the elastic film, the layer of a thickness of less than 0.2 μm; and

a readout circuit for determining the electrical resistance of the at least one sensing electrode of the sensor patch.

16. The sensing device as claimed in claim 15, further comprising at least one of a visual means or an audio output means.

17. The sensing device as claimed in claim 15, further comprising a radio frequency wireless module electrically coupled to the readout circuit.