CLAIMS

1. A compression bandage system, comprising:

a textile configured to conform to a body portion of an individual subject;

a sensor assembly including one or more strain gauges integrated with the textile, the one or more strain gauges configured to generate one or more sense signals associated with a strain of the textile;

circuitry operably coupled to the sensor assembly and configured to receive the one or more sense signals associated with the strain of the textile , the circuitry including a tension-monitoring module configured to compare the one or more sense signals associated with the strain of the textile generated by the sensor assembly at a first time at a first location to the one or more sense signals associated with the strain of the textile generated by the sensor assembly at a second time at the first location and to compare the one or more sense signals associated with the strain of the textile generated by the sensor assembly at the first time at a second location to the one or more sense signals associated with the strain of the textile generated by the sensor assembly at the second time at the second location, and to determine how any changes in strain at the first location compare to any changes in strain at the second location; and

a reporter operably coupled to the circuitry and configured to generate one or more communication signals responsive to instruction by the circuitry, the one or more communication signals associated with the strain of the textile, the circuitry configured to instruct the reporter to generate the one or more communication signals at least one of when the strain of the textile is less than a threshold strain value or when the strain of the textile is greater than the threshold strain value.

2. The compression bandage system of claim 1, wherein the circuitry is configured to determine whether the strain of the textile is less than, equal to, or greater than the threshold strain value.

3. The compression bandage system of claim 1, wherein the circuitry includes a comparison module configured to compare the one or more sense

signals generated by the sensor assembly to reference data indicative of the threshold strain value.

4. The compression bandage system of claim 1, wherein the one or more communication signals are associated with a quantitative strain value for the textile.

5. The compression bandage system of claim 1, wherein at least one of the circuitry or the reporter is configured to communicate with an external device.

6. The compression bandage system of claim 5, wherein at least one of the circuitry or the reporter is configured to wirelessly communicate with the external device via a wireless communications link.

7. The compression bandage system of claim 5, wherein at least one of the circuitry or the reporter is configured to communicate with the external device via a wired communications link.

8. The compression bandage system of claim 5, wherein at least one of the circuitry or the reporter is configured to receive one or more communication signals from the external device.

9. The compression bandage system of claim 5, wherein the circuitry is configured to instruct the reporter to generate the one or more communication signals associated with the strain of the textile responsive to a query from the external device.

10. The compression bandage system of claim 5, wherein the external device includes a mobile communication or computing device.

11. The compression bandage system of claim 1, wherein the reporter is configured to provide an auditory indication pertaining to the one or more sense signals associated with the strain of the textile.

12. The compression bandage system of claim 1, wherein the reporter includes an alarm device configured to provide the auditory indication.

13. The compression bandage system of claim 1, wherein the reporter is configured to provide a visual indication pertaining to the one or more sense signals associated with the strain of the textile.

14. The compression bandage system of claim 1, wherein the reporter is configured to provide a tactile indication pertaining to the one or more sense signals associated with the strain of the textile.

15. The compression bandage system of claim 1, wherein the reporter includes a vibration device configured to provide the tactile indication.

16. The compression bandage system of claim 1, wherein the circuitry is configured to actuate the one or more strain gauges at or below an activation strain threshold value of the textile.

17. The compression bandage system of claim 16, wherein the activation strain threshold value of the textile is a strain of the textile sufficient to apply a pressure to the body portion from 8 mmHg to 50 mmHg.

18. The compression bandage system of claim 1, wherein the circuitry is configured to actuate the one or more strain gauges above an activation strain threshold value of the textile.

19. The compression bandage system of claim 1, wherein the circuitry is configured to actuate the one or more strain gauges below an activation strain threshold value of the textile.

20. The compression bandage system of claim 1, wherein the circuitry includes a switch structure configured to at least one of activate or deactivate the one or more strain gauges.

21. The compression bandage system of claim 1, further including a proximity sensor coupled to the textile, the proximity sensor configured to generate one or more sense signals associated with at least one of detection of an external object in contact with the textile or absence of detection of an external object in contact with the textile.

22. The compression bandage system of claim 21, wherein the circuitry is configured to disregard one or more sense signals associated with the strain of the textile upon receipt of the one or more sense signals associated with detection by the proximity sensor of the external object in contact with the textile.

23. The compression bandage system of claim 1, further including a pressure sensor coupled to the textile.