CLAIMS

I/We claim:

1. A system comprising:

a pressure-mitigation apparatus that includes a geometric arrangement of inflatable chambers formed by interconnections between a top layer and a bottom layer,

wherein an outer surface of the bottom layer is comprised of silicone rubber, and

wherein the inflatable chambers are configured to mitigate contact pressure applied to a human body by a support surface when pressure in the inflatable chambers is varied; and

an attachment apparatus for securing the pressure-mitigation apparatus to the support surface;

wherein the attachment apparatus has a longitudinal body comprised of a non-slip material, and is configured to be positioned between the pressure-mitigation apparatus and the support surface such that the longitudinal body contacts the outer surface of the bottom layer of the pressure-mitigation apparatus and the support surface; thereby providing sufficient tackiness to naturally limit movement of the pressure-mitigation apparatus in relation to the support surface, but allowing the pressure-mitigation apparatus to be readily detached from the attachment apparatus.

2. The system of claim 1

wherein the top layer of the pressure-mitigation apparatus is comprised of a second material that is configured for direct contact with the human body.

3. The system of claim 1 wherein the non-slip material is polyurethane, polypropylene, silicone, or a rubber compound.

4. The system of claim 1 wherein the attachment apparatus includes a first adhesive film disposed along a top surface that contacts the bottom layer of the pressure-mitigation apparatus.

5. The system of claim 4 wherein the attachment apparatus includes a second adhesive film disposed along a bottom surface that contacts the support surface.

6. The system of claim 1 wherein the attachment apparatus includes

a top layer that contacts the bottom layer of the pressure-mitigation apparatus, and

a bottom layer that contacts the support surface.

7. The system of claim 6 wherein the attachment apparatus further includes a pliable core disposed between the top and bottom layers.

8. The system of claim 7 wherein the pliable core is comprised of polyurethane foam, polyethylene foam, latex, wool, cotton, a woven fabric, a non-woven fabric, natural fibers, or synthetic fibers.

9. A method for manufacturing a pressure-mitigation apparatus designed to mitigate pressure applied to a human body by a support surface, the method comprising:

acquiring a first sheet comprised of a first material;

acquiring a second sheet comprised of a second material;

creating a cavity by forming an interconnection along a periphery of the first and second sheets without any intervening sheets therebetween; and

creating a geometric pattern of chambers by forming at least one additional interconnection between the first and second sheets,

wherein the chambers are formed such that each chamber can be independently pressurized; and

applying a silicon rubber coating to an outer surface of the second sheet.

10. The method of claim 9 wherein the first material is a liquid-impervious material configured for direct contact with a human body.

11. The method of claim 9 further comprising:

forming perforations in the first sheet to allow the passage of fluids through the first sheet into the cavity.

12. The method of claim 11 further comprising:

securing a liquid-impervious lining to an interior surface of the first sheet to inhibit the fluids from entering the chambers.

13. The method of claim 9 wherein the second material is a liquid-impervious material configured for direct contact with a support surface or an attachment apparatus.

14. The method of claim 9 further comprising:

applying an antimicrobial coating to an exterior surface of the first sheet, the second sheet, or any combination thereof.

15. The method of claim 9 further comprising:

applying a non-slip coating to an exterior surface of the first sheet, the second sheet, or any combination thereof.