

CLAIMS

I/We claim:

1. A system comprising:
a pressure-mitigation apparatus that includes a geometric arrangement of
5 inflatable chambers formed by interconnections between a top layer
and a bottom layer,
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
10 an attachment apparatus for securing the pressure-mitigation apparatus to the
support surface.
2. The system of claim 1
wherein the top layer is comprised of a first material configured for direct
15 contact with the human body, and
wherein the bottom layer is comprised of a second material configured for
direct contact with the attachment apparatus.
3. The system of claim 1 wherein the attachment apparatus is comprised of a
20 material that provides sufficient tackiness to naturally limit movement of the
pressure-mitigation apparatus in relation to the support surface.
4. The system of claim 3 wherein the material is polyurethane, polypropylene,
silicone, or a rubber compound.
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5. 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.
- 30 6. The system of claim 5 wherein the attachment apparatus includes a second
adhesive film disposed along a bottom surface that contacts the support surface.

7. 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.
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8. The system of claim 7 wherein the attachment apparatus further includes a
pliable core disposed between the top and bottom layers.
9. The system of claim 8 wherein the pliable core is comprised of polyurethane
10 foam, polyethylene foam, latex, wool, cotton, a woven fabric, a non-woven fabric,
natural fibers, or synthetic fibers.
10. A method for manufacturing a pressure-mitigation apparatus designed to
mitigate pressure applied to a human body by a support surface, the method
15 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; and
20 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.
- 25 11. The method of claim 10 wherein the first material is liquid-impervious material
configured for direct contact with a human body.
12. The method of claim 10 further comprising:
forming perforations in the first sheet to allow the passage of fluids through
30 the first sheet into the cavity.
13. The method of claim 12 further comprising:

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

14. The method of claim 10 wherein the second material is a liquid-impervious material configured for direct contact with a support surface or an attachment apparatus
15. The method of claim 10 further comprising:
applying an antimicrobial coating to an exterior surface of the first sheet, the second sheet, or any combination thereof.
16. The method of claim 10 further comprising:
applying a non-slip coating to an exterior surface of the first sheet, the second sheet, or any combination thereof.
17. A method for manufacturing an attachment apparatus designed to secure a pressure-mitigation apparatus to a support surface, the method comprising:
acquire a roll of pliable material that provides sufficient tackiness to naturally limit movement of the pressure-mitigation apparatus in relation to the support surface;
cutting the pliable material into a first segment and a second segment;
creating a cavity by forming an interconnection along a periphery of the first and second segments; and
inserting a pliable core into the cavity.
18. The method of claim 17 further comprising:
applying an adhesive coating to an exterior surface of the first segment, the second segment, or any combination thereof
19. The method of claim 17 further comprising:
forming perforations in the first segment to allow the passage of fluids into the cavity.

20. The method of claim 17 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.