WHAT IS CLAIMED IS:

1. A moldable mattress comprising:

a casing comprising a bladder defining an inner volume and a top compliant surface over a top surface of the bladder, the compliant surface configured to conform to a shape of a displacing structure;

a plurality of beads within the inner volume; wherein:

the casing is configured so that the inner volume can be inflated and evacuated with a fluid medium, such that the casing is moldable when inflated, and maintains a resilient shape when an actuating volume of the fluid medium is evacuated;

the plurality of beads are distributed in the fluid medium within the inner volume;

in use, with the inner volume of the casing inflated a displacing structure disposed on the compliant surface causes a displacement of at least a portion of the fluid medium and at least a portion of the plurality of beads in the inner volume of the casing and the casing compresses the plurality of beads to maintain a shape of the displacement by the displacing structure when an actuating volume of the fluid medium is evacuated;

an evacuation header having one or more fluid pump line interfaces configured to couple to one or more fluid pump lines, the evacuation header comprising an inner chamber for receiving liquid drained from the top surface of the bladder; and

one or more evacuation tubes configured to drain fluid from the top surface of the bladder to the inner chamber.

2. The moldable mattress of claim 1 wherein the casing in a plan view has a hemispheric egg-shape.

3. The moldable mattress of claim 1, the casing further comprising an outer skirt attached to and encircling the casing, wherein the outer skirt is configured to be flipped up creating a reservoir around an outer perimeter of the casing above the compliant surface or flipped down.

4. The moldable mattress of claim 1 in combination with a gimballing base, the gimballing base comprising:

a movable base having a telescoping post;

a gimballing plate;

a gimbal connection between the gimballing plate and a distal end of the telescoping post configured to gimbal about 2 axes.

5. The moldable mattress of claim 1, wherein the compliant surface is expandable in at least one direction.

6. The moldable mattress of claim 1 wherein the one or more evacuation tubes are defined in part by the bladder.

7. The moldable mattress of claim 1 wherein the one or more evacuation tubes extend through the bladder.

8. The moldable mattress of claim 1 wherein the evacuation header underlies the bladder.

9. The moldable mattress of claim 1 further comprising a pump operatively associated with at least one of the one or more fluid pump lines, wherein the pump is configured to continuously evacuate the evacuation header.

10. The moldable mattress of claim 1 further comprising a pump operatively associated with at least one of the one or more fluid pump lines, the pump having an outlet attached to an evacuation fluid pump line, the evacuation fluid pump line being coupled to a sanitizing trap, wherein the sanitizing trap holds a sanitizing and deodorizing solution to disinfect and deodorize the recovered liquid waste, water, and any circulating air.

11. The moldable mattress of claim 1 wherein the bladder is impermeable.

12. The moldable mattress of claim 1 wherein the bladder is made of a woven material.

13. The moldable mattress of claim 1 wherein the bladder is permeable.

14. The moldable mattress of claim 1 further comprising reinforcement in the evacuation tubes to resist collapsing.

15. A method of supporting a patient comprising:

providing the moldable mattress of claim 1;

placing a patient on the top compliant surface;

continuously drawing liquid waste, water and any circulation air from the top surface of the bladder to the evacuation header.

16. A method of supporting a patient comprising:

providing a casing comprising a bladder defining an inner volume and a top compliant surface over a top surface of the bladder, the compliant surface configured to conform to a shape of a patient;

providing a plurality of beads are distributed in the fluid medium within the inner volume;

lying a patient on the top compliant surface;

evacuating a volume of the fluid medium from the inner volume to maintain a shape underlying the patient corresponding to an imprint upon the top surface of the bladder by the patient; and

continuously drawing liquid waste, water and any circulation air from the top surface of the bladder to an evacuation header.