CLAIMS

1. A securement device comprising:

a securement band;

a securement body including a top surface, a bottom surface, a first side surface and a second side surface, wherein the securement body is attached to the securement band and configured to secure at least a portion of at least one tube, line, or cord; and

a securement strap in contact with the top surface, the bottom surface, the first side surface, and the second side surface of the securement body, wherein the securement strap applies an increasing level of tension to the securement body as the securement strap is tightened around the securement body,

wherein the top surface, the bottom surface, the first side surface, and the second side surface are parallel to a length of the portion of the at least one tube, line, or cord, and deform around the portion of the at least one tube, line, or cord when the securement body is under tension from the securement strap to provide a compressive load to the portion of the at least one line, tube, or cord to secure the portion via hoop stress from movement due to a pull force.

2. The securement device of claim 1, wherein the securement body is configured, when under tension, to provide the compressive load around a circumference of the secured portion of the at least one line, tube, or cord.

3. The securement device of claim 1, wherein the securement body, when under tension, is configured to absorb and transmit a force applied to the secured portion of the at least one line, tube, or cord to the securement band.

4. The securement device of claim 1, wherein the securement device further comprises a strap which extends through the securement body.

5. The securement device of claim 1, wherein the securement band is further comprised of an upper layer with an aperture formed therethrough and a lower layer, wherein a portion of the securement body is secured between the upper layer and lower layer and the securement strap is slidable along the bottom surface of the securement body.

6. The securement device of claim 5, wherein the securement body extends partially through the aperture in the upper layer.

7. The securement device of claim 5, wherein the lower layer is comprised of a USP Class VI medical grade material.

8. A securement device comprising:

a securement band;

a securement body including a top surface, a bottom surface, a first side surface and a second side surface, wherein the securement body is attached to the securement band and further comprising at least one grip channel formed therethrough that is configured to hold at least one tube, line or cord;

a securement strap located around the securement body, wherein the securement strap is arranged to be in contact with the top surface, the bottom surface, the first side surface and the second side surface of the securement body, and is configured to apply an increasing level of tension to the securement body as the securement strap is tightened,

wherein the securement body, when under tension, deforms to generate a uniform hoop stress around the at least one grip channel to prevent at least a portion of the at least one tube, line or cord held by the securement body from movement within the securement body due to a pull force.

9. The securement device of claim 8, wherein the securement body further comprises:

a unitary base;

a strap aperture formed therethrough the base and configured to operate with a strap;

at least one flange connected to the base and the at least one grip channel; and

at least one termination end,

wherein the at least one flange and a second flange or at least one termination end define a slot connected to the at least one grip channel.

10. The securement device of claim 9, wherein the at least one flange is at an angle between 20 and 50 degrees in relation to the base.

11. The securement device of claim 9, wherein the securement body further comprises:

a first protrusion extending from the base; and

a second protrusion extending from the base,

wherein the first protrusion and second protrusion are configured to attach the securement body to the securement band.

12. The securement device of claim 9, wherein one end of the strap is configured to secure at least one transducer to the securement band and to extend through the strap aperture.

13. The securement device of claim 12, wherein the strap is further configured to maintain the at least one transducer in-line with the heart of a patient when the securement band is secured to an arm of the patient.

14. The securement device of claim 8, wherein the securement body is comprised of a tacky elastomer.

15. The securement device of claim 8, wherein the securement device further comprises a strap attached to the securement band and configured to secure the securement band around a secure structure.

16. The securement device of claim 8, wherein the securement strap is in slidable contact with a surface of the securement body.

17. A method for securing a tube, line or cord to a securement device as claimed in claim 9, the method comprising:

securing a securement band of the securement device to a secure structure,

wherein at least one grip channel of a securement body of the securement device is each defined by either two flanges or one flange and one termination end, the two flanges or the one flange and the one termination end each further comprising a top surface, and

wherein a securement strap of the securement device is in contact with a top surface, a bottom surface, a first side surface, and a second side surface of the securement body;

inserting at least a portion of the tube, line, or cord into the at least one grip channel; and

tightening the securement strap around the securement body so the securement strap comes into contact with each top surface of the two flanges or the one flange and the one termination end, causing the securement body to deform to generate hoop stress around the at least one grip channel which prevents at least the portion of the tube, line, or cord from movement.

18. The method of claim 17, wherein a diameter of the at least one grip channel closely matches an outer diameter of the tube, line, or cord.

19. The method of claim 17, wherein a portion of the securement body forming the at least one grip channel compresses around a circumference of the tube, line, or cord.

20. The method of claim 17, wherein the securement device further comprises a strap.

21. A securement device comprising:

a securement band configured to removably attach to a secure structure;

a securement body attached to the securement band and configured to secure at least one line, tube or cord, the securement body attached to the securement band, wherein the securement body includes a top surface, a bottom surface, a first side surface and a second side surface; and

a securement strap configured to apply tension to the securement body,

wherein the securement strap is in contact with the top surface, the bottom surface, the first side surface, and the second side surface of the securement body, and

wherein the securement body is configured, when under tension by the securement strap, to separate the at least one line, tube or cord into a load side and a secure side, the securement body being configured to transfer more than one pull force

applied to the load side of the at least one line, tube or cord to the securement body and the secure structure instead of to the secure side of the at least one line, tube or cord.

22. The securement device of claim 21, wherein the securement band is configured to be tightened and adjusted independently from, the securement strap.

23. The securement device of claim 21 wherein the securement strap is made integral with the securement body.