

CLAIMS

1. An implantable prosthetic device, comprising:

a first collar;

a second collar;

a shaft;

a spacer coupled to the shaft and disposed between the first collar and the second collar; wherein the spacer is configured to be inflated in size within a patient's body during an implantation procedure to accommodate a specific patient's anatomical variability;

wherein the spacer is configured to be positioned between native heart valve leaflets to reduce regurgitation therebetween, wherein the spacer comprises inflatable members, wherein the inflatable members can extend laterally from opposite sides of the shaft and the collars when inflated, and wherein each inflatable member can be independently inflated; and

a frame comprising at least one anchor configured to be placed on one side of one of the native leaflets, and a clasp coupled to the anchor and configured to be placed on the other side of the one native leaflet, wherein the clasp is moveable between an open position and a closed position,

wherein when in the closed position the clasp is configured to retain a portion of the one native leaflet to the anchor.

2. The implantable prosthetic device of claim 1 wherein the spacer is one of elliptical, ovular, cylindrical, and rectangular.

3. The implantable prosthetic device of claim 1 or 2 wherein the spacer is configured to change in shape in situ.

4. The implantable prosthetic device of any one of claims 1-3 wherein the inflatable members comprise a first inflatable member and a second inflatable member that can be independently inflated in size.

5. The implantable prosthetic device of claim 4 wherein the first inflatable member and the second inflatable member have a height in the range of 5 mm and 15 mm.

6. The implantable prosthetic device of claim 4-5 wherein the first inflatable member and the second inflatable member have a length in the range of 2.5 mm and 15 mm.

7. The implantable prosthetic device of any one of claims 4-6 wherein the first inflatable member and the second inflatable member have a width in the range of 2 mm and 10 mm.

8. The implantable prosthetic device of any one of claims 1-7 wherein the spacer comprises a sponge material.

9. The implantable prosthetic device of claim 8 wherein the sponge material forms a matrix.

10. An assembly comprising:
a delivery apparatus comprising a catheter;
an implantable prosthetic device coupled to the delivery apparatus, wherein the implantable prosthetic device comprises:

a first collar;

a second collar;

a shaft;

a spacer coupled to the shaft and disposed between the first collar and the second collar; wherein the spacer is configured to be inflated in size within a patient's body during an implantation procedure to accommodate a specific patient's anatomical variability;

wherein the spacer is configured to be positioned between native heart valve leaflets to reduce regurgitation therebetween, wherein the spacer comprises inflatable members, wherein the inflatable members can extend laterally from opposite sides of the shaft and the collars when inflated, and wherein each inflatable member can be independently inflated ; and

a frame comprising at least one anchor configured to be placed on one side of one of the native leaflets, and a clasp coupled to the anchor and configured to be placed on the other side of the one native leaflet, wherein the clasp is moveable between an open position and a closed position;

wherein when in the closed position the clasp is configured to retain a portion of the one native leaflet to the anchor.

11. The assembly of claim 10 wherein the spacer is one of elliptical, ovular, cylindrical, and rectangular.

12. The assembly of claim 10 or 11 wherein the inflatable members comprise a first inflatable member and a second inflatable member that can be independently inflated in size.

13. The assembly of claim 12 wherein the first inflatable member and the second inflatable member have a height in the range of 5 mm and 15 mm.

14. The assembly of claims 12-13 wherein the first inflatable member and the second inflatable member have a length in the range of 2.5 mm and 15 mm.

15. The assembly of any one of claims 12-14 wherein the first inflatable member and the second inflatable member have a width in the range of 2 mm and 10 mm.

16. The assembly of any one of claims 10-15 wherein the spacer comprises a sponge material.

17. The assembly of claim 16 wherein the sponge material forms a matrix.