CLAIMS

What is claimed is:

1. A delivery system for a device having one or more clasps for securing native leaflets of a heart valve, the delivery system comprising:

a device catheter assembly having a handle assembly for controlling the device and a sheath extending from the handle assembly in an axial direction;

wherein the sheath has distal end portion comprising a capture mechanism for releasably attaching the sheath to the device; and

wherein the device catheter assembly, comprises:

(i) a handle housing, the sheath extending distally from the handle housing;

(ii) a first clasp actuation element extending through the sheath, the first clasp actuation element operatively coupled to a first clasp of one or more clasps on the device;

(iii) a first clasp control member operatively connected to the first clasp actuation element, the first clasp control member movable relative to the housing between a first position associated with the first clasp being in an open position and a second position associated with the first clasp being in a closed position; and

(iv) a first biasing element configured to apply a force to pull the first clasp toward the open position.

2. The delivery system according to claims 1, wherein the first biasing element applies the force onto the first clasp actuation element.

3. The delivery system according to claims 2, wherein the first biasing element directly contacts the first clasp actuation element when applying the force.

4. The delivery system according to any of claims 1-3, wherein the force is directed radially outward from a centerline of the handle housing.

5. The delivery system according to any of claims 1-4, wherein the force is not applied to pull the first clasp toward the open position when the first clasp control member is in the second position.

6. The delivery system according to any of claims 1-4, wherein the first biasing element has an elongated body having a proximal end fixed relative to the handle housing and a free distal end.

7. The delivery system according to claims 6, wherein the elongated body has a semi-elliptical shape.

8. The delivery system according to claim 6 or 7, wherein the first biasing element has an opening extending laterally through the elongated body and the first clasp actuation element extends through the opening.

9. The delivery system according to claims 8, wherein the opening is positioned closer to the distal end than the proximal end.

10. The delivery system according to any of claims 188-196, wherein the first clasp actuation element is a suture line.

11. The delivery system according to any of claims 1-10, wherein the first biasing element has a wide position in which the force is applied to pull the first clasp toward the open position and a narrow position in which the force is not applied to pull the first clasp toward the open position.

12. The delivery system according to claims 11, wherein the first biasing element is biased to the wide position.

13. The delivery system according to claim 12, wherein the first clasp control member holds the first biasing element in the narrow position when the first clasp control member is in the second position.

14. The delivery system according to claim 12 or claim 13, wherein the first clasp control member releases the first biasing element to the wide position when the first clasp control member is in the first position.

15. The delivery system according to claim 1, wherein the first biasing element is positioned in-line with the first clasp actuation element.

16. The delivery system according to claim 15, wherein the first biasing element comprises an elastic portion of the first clasp actuation element.

17. The delivery system according to claim 16, wherein the elastic portion extends along an entire length of the first clasp actuation element.

18. The delivery system according to claim s 16, wherein the elastic portion extends along a partial length of the first clasp actuation element.

19. The delivery system according to claim 18, wherein the elastic portion of the first clasp actuation element is positioned inside the handle housing.

20. The delivery system according to any of claims 15-19, wherein the first biasing element does not apply the force to pull the first clasp toward the open position when the first clasp control member is in the second position.

21. The delivery system according to any of claims 1-20, wherein the first clasp control member is movable axially relative to the housing between the first position and the second position.

22. The delivery system according to any of claims 1-21, further comprising:

(i) a second clasp actuation element extending through the sheath, the second clasp actuation element operatively coupled to a second clasp of the one or more clasps on the device;

(ii) a second clasp control member operatively connected to the second clasp actuation element, the second clasp control member movable relative to the housing between a third position associated with the second clasp being in an open position and a fourth position associated with the second clasp being in a closed position; and

(iii) a second biasing element configured to apply a second force to pull the second clasp toward the open position.