We claim:

1. A delivery apparatus for an implantable medical device, comprising:

a handle;

a shaft extending distally from the handle, the shaft having a steering-member lumen extending a length of the shaft;

a steering member extending through the steering-member lumen, the steering member having a proximal end portion and a distal end portion; and

a pull ring disposed along a distal end portion of the shaft, the pull ring comprising a proximal segment having a first diameter and a distal segment having a second diameter smaller than the first diameter, wherein the distal end portion of the steering member is fixed to the distal segment of the pull ring;

wherein the handle comprises an adjustment mechanism operatively coupled to the proximal end portion of the steering member and configured to adjust tension in the steering member so as to adjust a curvature of the shaft.

2. The delivery apparatus of claim 1, wherein the pull ring further comprises a transition section formed between the proximal segment and the distal segment with an opening which is in communication with a groove formed on an outer surface of the distal segment of the pull ring.

3. The delivery apparatus of claim 2, wherein the distal end portion of the steering member extends through the proximal segment of the pull ring, the opening, and into the groove.

4. The delivery apparatus of any previous claim, wherein the shaft comprises a braided layer radially outward of the steering-member lumen, wherein the braided layer has a distal end portion that extends into the proximal segment of the pull ring.

5. The delivery apparatus of claim 4, wherein the distal end portion of the steering member extends distally beyond a distal terminal end of the braided layer.

6. The delivery apparatus of any of claims 4 or 5, wherein the shaft comprises an inner polymeric layer defining the steering-member lumen and an outer polymeric layer, wherein the inner polymeric layer is radially inward of the braided layer and the outer polymeric layer is radially outward of the braided layer.

7. The delivery apparatus of claim 6, wherein the pull ring is embedded within the shaft between the inner and outer polymeric layers.

8. The delivery apparatus of any previous claim, wherein the steering member comprises a braided cable.

9. The delivery apparatus of any of claims 1-7, wherein the steering member comprises a wire.

10. The delivery apparatus of any previous claim, wherein a length of the proximal segment is shorter than a length of the distal segment.

11. The delivery apparatus of any previous claim, wherein a surface of one or both of the proximal and distal segments of the pull ring is perforated.

12. The delivery apparatus of any previous claim, wherein the shaft is an outer shaft having a central lumen, the delivery apparatus further comprising an inner shaft extending coaxially through the central lumen of the outer shaft, and wherein the steering-member lumen is radially offset from a central axis of the central lumen.

13. A steerable delivery apparatus for an implantable medical device, comprising:

a handle;

a shaft extending distally from the handle, the shaft having a steering-member lumen extending between a distal end portion and a proximal end portion of the shaft, and a braided layer radially outward of the steering-member lumen;

a steering member extending through the steering-member lumen, the steering member having a proximal end portion and a distal end portion; and

a pull ring coupled to the distal end portion of the shaft, the pull ring comprising a proximal segment having a first diameter and a distal segment having a second diameter smaller than the first diameter, wherein the distal end portion of the steering member is fixed to the distal segment of the pull ring, and wherein a distal end portion of the braided layer extends into the proximal segment of the pull ring and terminates at a location proximal to the distal segment of the pull ring;

wherein the handle comprises an adjustment mechanism operatively coupled to the proximal end portion of the steering member, wherein actuation of the adjustment mechanism varies tension in the steering member to vary a curvature of the shaft.

14. The delivery apparatus of claim 13, wherein the pull ring further comprises a transition section formed between the proximal segment and the distal segment with an opening which is in communication with a groove formed on an outer surface of the distal segment of the pull ring, and wherein the distal end portion of the steering member extends through the proximal segment of the pull ring, the opening, and into the groove.

15. The delivery apparatus of claim 14, wherein the transition section tapers from the proximal segment to the distal segment of the pull ring.

16. The delivery apparatus of any of claims 13-15, wherein a distal terminal end of the steering member extends distally beyond a distal terminal end of the braided layer.

17. The delivery apparatus of any of claims 13-16, wherein the shaft comprises:

an inner polymeric layer defining the steering-member lumen, the inner polymeric layer disposed radially inward of the braided layer; and

an outer polymeric layer disposed radially outward of the braided layer, and wherein the pull ring is embedded within the distal end portion of the shaft between the inner and outer polymeric layers.

18. The delivery apparatus of any claims 13-17, wherein a surface of one or both of the distal and proximal segments of the pull ring comprises perforations.

19. The delivery apparatus of any claims 13-18, wherein the steering member comprises a braided cable.

20. The delivery apparatus of any of claims 13-18, wherein the steering member comprises a wire.

21. The delivery apparatus of any of claims 13 or 16-20, wherein the distal end portion of the steering member extends through the proximal segment of the pull ring, radially outwardly through an opening in the pull ring, and alongside an outer surface of the distal segment of the pull ring.

22. The delivery apparatus of claim 21, wherein the distal end portion of the steering member extends into a groove in the distal segment of the pull ring.

23. The delivery apparatus of any of claims 13-22, wherein the shaft is first shaft having a central lumen, the delivery apparatus further comprising a second shaft extending coaxially through the central lumen of the first shaft.

24. The delivery apparatus of claim 23, further comprising an inflatable balloon mounted on a distal end portion of the second shaft.

~~25. A method of using a catheter device, the method comprising:~~

~~inserting a shaft of the catheter device into the body of a patient, the shaft comprising a steering-member lumen extending there-through, a steering member extending through the steering-member lumen, the steering member having a proximal end portion and a distal end portion, the distal end portion of the steering member fixed to a distal end portion of the shaft via a pull ring, the pull ring comprising a proximal segment having a first diameter and a distal segment having a second diameter, wherein the first diameter is larger than the second diameter; and~~

~~steering the shaft inside the body of the patient by actuating an adjustment mechanism on a handle of the device outside the body of the patient, wherein the adjustment mechanism is operatively coupled to the proximal end portion of the steering member and wherein the actuating includes adjusting tension in the steering member to adjust a curvature of the shaft.~~

~~26. The method of claim 25, wherein the shaft comprises a braided layer radially outward of the steering-member lumen, wherein a distal end portion of the braided layer extends into the proximal segment.~~

~~27~~25. A method for making a steerable catheter apparatus, the method comprising:

placing a first polymeric layer on a mandrel;

placing a steering member longitudinally along the first polymeric layer;

placing a braided layer over the first polymeric layer and the steering member;

positioning a pull ring relative to the first polymeric layer, the steering member and the braided layer such that a distal end portion of the braided layer extends into a proximal segment of the pull ring, a distal end portion of the steering member extends through the proximal segment of the pull ring, distally beyond the braided layer and alongside a distal segment of the pull ring, wherein proximal segment of the pull ring has a larger diameter than a diameter of the distal segment of the pull ring;

placing a second polymeric layer over the braided layer; and

bonding the first and second polymeric layers to each other via openings in the braided layer.

~~28~~26. The method of claim ~~27~~25, wherein the steering member comprises a braided cable.