WHAT IS CLAIMED IS:

1. A device for diverting blood flow from a first vessel to a second vessel and maintaining blood flow in the first vessel, the device comprising:

a first segment configured to anchor in the first vessel,

wherein the first segment comprises a window to allow blood to flow into the first segment, through the window, and distal in the first vessel; and

a second segment configured to anchor in the second vessel,

wherein the second segment is configured to allow blood to flow into the first segment, through the second segment, and into the second vessel thereby diverting blood flow from the first vessel to the second vessel and maintaining blood flow in the first vessel.

2. The device of Claim 1, wherein the window is formed during a manufacturing process of the device.

3. The device of Claim 1, wherein the window is formed in situ.

4. The device of Claim 3, wherein the first segment comprises a puncturable graft.

5. The device of Claim 3, wherein the first segment comprises a stent structure configured to facilitate puncturing.

6. The device of Claim 1, wherein the first segment comprises a flap configured to open radially outward.

7. The device of Claim 1, wherein the first segment comprises a plurality of flaps configured to open radially outward.

8. The device of Claim 1, wherein the first segment is separately deployable from the second segment.

9. The device of Claim 1, wherein the first segment comprises a branch configured to be positioned in a branch vessel of the first vessel.

10. The device of Claim 1, wherein the first segment comprises a plurality of slits configured to open upon bending of the first segment.

11. The device of any one of Claims 1 to 10, wherein the first segment comprises a stent structure, at least part of the stent structure being uncovered.

12. The device of Claim 11, wherein the second segment comprises the stent structure.

13. The device of Claim 12, wherein at least one parameter of the stent structure is different between the first segment and the second segment.

14. The device of Claim 13, wherein the parameter comprises a cell pattern.

15. The device of any one of Claims 1 to 10, wherein the second segment comprises a graft covering.

16. The device of Claim 15, wherein the graft covering is generally perpendicular to a longitudinal axis of the device.

17. The device of Claim 15, wherein the graft covering is at an angle to a longitudinal axis of the device.

18. The device of Claim 17, wherein the angle is between about 10° and about 70°.

19. The device of any one of Claims 1 to 10, wherein the first segment comprises a graft covering.

20. The device of Claim 19, wherein the graft covering of the first segment comprises a V-shaped cutout.

21. The device of any one of Claims 1 to 10, further comprising an occlusive implant.

22. The device of Claim 21, wherein the occlusive implant comprises a tether configured to anchor in the second segment.

23. The device of any one of Claims 1 to 10, wherein the second segment comprises a third segment configured to limit fluid flow through the device.

24. The device of Claim 23, wherein the third segment comprises a narrower diameter than the second segment.

25. The device of any one of Claims 1 to 10, wherein the first segment comprises a flange.

26. The device of any one of Claims 1 to 10, wherein the device comprises a woven braid having variable porosity along its length, the first segment comprising a first portion having a first porosity configured to permit perfusion of blood through the portion,

and the second segment comprising a second portion having a second porosity configured to divert the blood through the portion.

27. The device of Claim 26, wherein the first porosity is less than 75%.

28. The device of Claim 26, wherein the second porosity is greater than 60%.

29. The device of any one of Claims 1 to 10, wherein the first segment comprises a plurality of wires woven together to form a mesh structure, the mesh structure having an expanded diameter between about 4 mm and about 8 mm, the mesh structure having a porosity between about 60% and about 75%, the mesh structure having a length between about 50 mm and about 150 mm, the expanded structure having a braid angle between about 120° and about 179°, the mesh structure having a compression resistance between about 0.4 N/mm and about 1.1 N/mm.

30. The device of any one of Claims 1 to 10, wherein the first segment has a first diameter and configured to overlap a stent graft that is stretching the first vessel, and wherein the second segment tapers from the first diameter to a second diameter, the device configured to stretch one or more of: the first vessel or the second vessel in a tapered manner to provide laminar flow through the device.

31. The device of any one of Claims 1 to 10, wherein the first segment has a first diameter, the second segment has a second diameter, and wherein the device comprises:

a third segment having a third diameter less than the first diameter and the second diameter, the third diameter configured to limit fluid flow through the device;

a fourth segment tapering from the first diameter to the third diameter; and

a fifth segment tapering from the third diameter to the second diameter.

32. The device of any one of Claims 1 to 10, wherein the first segment has a first diameter configured to limit fluid flow through the device, the second segment has a second diameter, and wherein the device comprises a third segment tapering from the first diameter to the second diameter.

33. The device of any one of Claims 1 to 10, wherein the first segment has a first diameter, the second segment has a second diameter, and wherein the device comprises:

a third segment extending transverse to the first segment, the third segment having a third diameter less than the first diameter and the second diameter, the third diameter configured to limit fluid flow through the device; and

a fourth segment tapering from the third diameter to the second diameter.

34. A device for diverting blood flow from a first vessel to a second vessel and maintaining blood flow in the first vessel, the device comprising:

a first segment configured to anchor in the first vessel, the first segment comprising:

a stent structure;

a window to allow blood to flow into the first segment, through the window, and distal in the first vessel; and

a flange;

a second segment configured to anchor in the second vessel, the second segment configured to allow blood to flow into the first segment, through the second segment, and into the second vessel, the second segment comprising:

the stent structure; and

a graft covering; and

a third segment configured to limit fluid flow through the device, the third segment comprising a narrower diameter than the second segment.

35. A device for diverting blood flow from a first vessel to a second vessel and maintaining blood flow in the first vessel, the device comprising:

a first section comprising a stent structure including pores configured to allow blood to flow into the first section, through the pores, and distal in the first vessel and/or into the first section, through the first section, and distal in the first vessel; and

a second section configured to allow blood to flow from the first vessel into the second section, through the second section, and into the second vessel.

36. A device for diverting blood flow from a first vessel to a second vessel and maintaining blood flow in the first vessel, the device comprising:

a flare to be anchored in the first vessel; and

an elongate section extending from the flare, the elongate section configured to be anchored in the second vessel.

37. The device of any one of Claims 34 to 36, comprising a stent structure, at least part of the stent structure being uncovered.

38. The device of any one of Claims 34 to 36, further comprising an occlusive implant configured to occlude blood flow in one of more of: the first vessel or the second vessel.

39. A device for diverting blood flow from a first vessel to a second vessel while and maintaining blood flow in the first vessel, the device comprising:

a first segment configured to be anchored in the first vessel,

wherein the first vessel comprises an artery,

wherein the first segment comprises a window configured to allow blood in the first segment to flow through the window and out of the first segment distally in the first vessel; and

a second segment configured to be positioned in the second vessel,

wherein the second vessel comprises a vein,

wherein the second segment is configured to allow blood in the first segment to flow into the second segment, through the second segment, and out of the second segment distally into the second vessel,

wherein the device is configured to divert blood flow from the first vessel into the second vessel while maintaining blood flow in the first vessel.

40. The device of Claim 39, wherein the first segment comprises a flap configured to open radially outward to permit blood flow through the window.