Claims

1. A medical implant (1), preferably a patch (5) that is adapted to repair or close a defect (D), preferably an opening in a ventricular or atrial or vessel wall (W), wherein

the medical implant (1) comprises an adhesive composition (6),

the medical implant (1) comprises two states, wherein the medical implant (1) in its first state can be deployed to the implant site while the adhesive composition (6) is inactive, and brought into the second state, preferably at the implant site, by an activation mechanism,

the adhesive composition (6), in said second state, is curable by a curing mechanism.

2. A medical implant (1) according to claim 1, wherein in the first state, the medical implant (1) comprises at least one cavity (24) that contains the adhesive composition (6) and that is adapted to, in the second state, release the adhesive composition (6).

3. A medical implant according to claim 2, wherein the cavity has at least two boundary surfaces, wherein at least one property, preferably at least one of permeability and solubility, is different between the two boundary surfaces.

4. A medical implant according to one of the claims 1 or 2, comprising a radiopaque element (106, 107, 108, 109).

5. A medical implant according to claim 4, comprising a support structure (31, 107, 109), wherein the radio-opaque element (106, 107, 108, 109) is preferably arranged within or formed by the support structure (31).

6. A medical implant according to one of the claims 4 or 5, wherein the radio-opaque element (106, 107, 108, 109) is arranged within or formed by the adhesive composition (6,104, 117’,117’’).

7. A medical implant according to one of the claims 4 to 6, wherein the radio-opaque element (106, 107, 108, 109) comprises at least one of barium sulfate and iodine.

8. A medical implant according to one of the preceding claims, wherein the implant (1) comprises at least one discrete marker (110).

9. A medical implant according to claim 8, wherein the marker (110) is at least one of radio-opaque and echogenic.

10. A medical implant according to one of the claims 8 or 9, wherein the implant comprises at least two discrete markers (110) that are arranged at a pre-defined distance and/or orientation from one another.

11. A medical implant according to one of the preceding claims, wherein the medical implant (1) has a generally flat shape with a first (101’, 103’) and a second surface (101’, 103’’), wherein the first (101’, 103’) and the second surfaces (102, 103’’) have substantially opposite orientations, and wherein at least one property of the first surface (101’, 103’) is different from a corresponding property of the second surface (102, 103’’).

12. A medical implant according to claim 11, wherein the first surface (101’, 103’) is adapted to enhance cell ingrowth.

13. A medical implant according to one of the claims 11 or 12, wherein the second surface (102,103’’) is adapted to provide adhesion to biological tissue, preferably human tissue, most preferably one of endocardial, pericardial and septal tissue.

14. A medical implant according to one of the preceding claims, wherein at least one surface of the implant, comprise a velour-like surface (101’’).

15. A medical implant according to one of the preceding claims, wherein the adhesive composition is arranged on the medical implant in a, preferably non-uniform, pattern.

16. A medical implant according to one of the preceding claims, wherein the adhesive composition comprises GelMA, preferably GelMA of animal origin, particularly preferably Fish GelMA or porcine GelMA.

17. A medical implant according to claim 16, wherein the GelMA is formed by a mixture of at least two GelMAs of animal origin, preferably a mixture of Fish GelMA and porcine GelMA.

18. A medical implant according to one of the claims 16 or 17, wherein the adhesive composition further comprises a photoinitiator.

19. A medical implant according to one of the claims 16 to 18, wherein the GelMA is cross-linkable by X-ray radiation.

20. A medical implant according to one of the preceding claims, comprising at least one rivet (130), preferably a blind rivet, for attachment of the implant to a tissue.

21. A medical implant according to one of the preceding claims, comprising at least retaining element (123, 124) for retaining a suture (125) at an outer circumference of the implant, and a suture (123, 124) that is arranged within said loop (124).

22. A medical implant according to claim 21, wherein the at least one retaining element (123, 124) is formed from the same material as the medical implant (1).

23. A medical implant according to one of the claims 21 or 22, wherein the at least one retaining element (123, 124) is formed of polyurethane with a thickness of 35 to 65 µm, preferably 45 to 55 µm.

24. A medical implant according to one of the claims 21 to 23, wherein the at least one retaining element (123, 124) is configured as a separate element arranged on the medical implant (1).

25. A medical implant according to one of the claims 21 to 24, wherein the at least one retaining element (123, 124) comprises a pre-determined breaking point, in particular an indentation (122, 127).

26. A medical implant according to one of the preceding claims, wherein the adhesive composition comprises, preferably consists of, a dried adhesive composition (111’,112’).

27. A medical implant according to claim 26, wherein the dried adhesive composition is activatable by exposure to a liquid.

28. A medical implant (1), preferably a medical implant (1) according to one of the claims 1 to 25, that is adapted to repair or close a defect (D), preferably an opening in a ventricular or atrial or vessel wall (W), wherein

the medical implant (1) comprises at least one tear line (3) that is arranged in proximity to a circumference of the medical implant (1), and

is adapted such that upon deployment to an implant site, preferably a septal defect site (D), the medical implant (1) can be attached to a tissue wall and torn along the tear line (3).

29. A medical implant (1) according to one of the claims 1 to 25 or 28, comprising a biodegradable material that is adapted to lose its mechanical strength in a human body within six to 36 months, , preferably twelve months, even more preferably six months.

30. A medical implant (1) according to one of the claims 28 to 29, wherein the medical implant (1) comprises a, preferably cross-shaped, cut (4) that is adapted such that a delivery device can partially extend through said cut (4).

31. A medical implant (1) according to one of the claims 28 to 30, wherein the medical implant (1) comprises fibers (26), preferably woven, spun or knitted fibers (26).

32. A medical implant (1) according to claim 31, wherein the fibers (26) are made of a bio-degradable material.

33. A medical implant (1) according to claim 32, wherein the bio-degradable material is selected from a group of poly(lactic-co-glycolic acid), poly(L-lactic acid), poly(D-lactic acid), poly(glycolic acid), poly(caprolactone), any copolymer and/or blend of these materials.

34. A medical implant (1) according to any one of the preceding claims, comprising a spine structure (31), preferably a spine structure (31) with different mechanical properties from the rest of the medical implant (1).

35. A medical implant according to claim 34, wherein the spine structure (31) comprises, preferably consists of, a polyurethane.

36. A medical implant (1) according to claim 34, wherein the spine structure extends beyond the medical implant (1) to provide non-elastic tear arms.

37. A medical implant according to one of the claims 20 to 25 and claim 36, wherein the retaining element (123, 124) is formed by or on the non-elastic tear arm (120, 126).

38. A medical implant (1) according to one of the claims 28 to 33, wherein the medical implant (1) comprises an adhesive composition (6), in particular an adhesive composition (6) that is adapted to attach the medical implant (1) to human tissue.

39. A medical implant (1) according to one of the claims 28 to 38, comprising at least one extension (13) radially extending beyond the periphery of the medical implant (1).

40. A medical implant (1) according to claim 39, wherein the at least one extension (13) comprises one of a string and a suture.

41. A medical implant (1) according to claim 39 or 40, wherein the at least one extension (13) comprises a strip consisting of the same material as the medical implant (1).

42. A medical implant according to one of the claims 20 to 25 and one of the claims 39 to 41, wherein the retaining element (123, 124) is formed by the at least one extension (120, 126).

43. A medical implant (1) according to one of the claims 39 or 0, wherein the extensions (13) are adapted to hold the medical implant (1), preferably a patch (5), to a delivery device, preferably a balloon (B).

44. A medical implant (1) according to one of the claims 28 to 43, wherein the medical implant (1) is formed by a part of a surface of an inflatable balloon (B) of a delivery device.

45. A method of producing a medical implant, preferably a medical implant (1) according to one of the preceding claims, wherein an adhesive composition is at least partially liquid and is arranged on at least one surface of the medical implant, further comprising a step of drying the adhesive composition.