CLAIMS

~~1. A method for placing a shunt into an eye, comprising:~~

~~(a) inserting a needle into the eye to form a delivery passageway in the eye, wherein the delivery passageway ends in a target outflow region in the eye;~~

~~(b) delivering a flowable composition through the needle to form an expanded space in the target outflow region;~~

~~(c) positioning an inflow end of a shunt in the anterior chamber of the eye and an outflow end of the shunt in the expanded space, wherein the shunt is releasably coupled to the needle; and~~

~~(d) releasing the needle from the shunt,~~

~~thereby placing the shunt in the eye to provide fluid communication between the anterior chamber and the target outflow region.~~

~~2. The method of claim 1, wherein the needle pierces the sclera.~~

~~3. The method of claim 1 or 2, wherein the method comprises cutting open a region in the conjunctiva, optionally prior to the needle piercing the sclera.~~

~~4. The method of claim 1 or 2, wherein the needle pierces the conjunctiva and the sclera, and wherein the method does not comprise cutting open a region in the conjunctiva.~~

~~5. The method of any of claims 1-4, wherein the target outflow region is between the sclera and the choroid/ciliary body, and the expanded space is a suprachoroidal space.~~

~~6. The method of claim 5, wherein the positioning step comprises positioning a distal end of the needle in the suprachoroidal space and towards the anterior chamber angle.~~

~~7. The method of any of claims 1-6, wherein:~~

~~the shunt is within the needle, optionally wherein the shunt is in a needle body passageway of the needle, or~~

the shunt forms a sleeve around the needle.

8. The method of claim 7, wherein the positioning step comprises advancing the shunt in/around the needle to a distal end of the needle.

9. The method of claim 8, wherein the advancing comprises pushing the shunt in/around the needle using a guidewire.

10. The method of any of claims 7-9, wherein the positioning step comprises piercing the anterior chamber angle with a distal end of the needle and/or the shunt.

11. The method of any of claims 7-10, wherein the releasing step comprises removing the needle and/or the guidewire from the eye, leaving the inflow end of the shunt in the anterior chamber and the outflow end of the shunt in the suprachoroidal space.

12. The method of any of claims 7-11, wherein the shunt is coupled to the needle prior to or after the inserting step.

13. The method of any of claims 7-12, wherein the shunt is coupled to the needle prior to or after delivering the flowable composition.

14. The method of any of claims 1-6, wherein the shunt is releasably coupled to a distal end of the needle.

15. The method of claim 14, wherein the positioning step comprises positioning the shunt towards the anterior chamber angle.

16. The method of claim 14 or 15, wherein the positioning step comprises advancing the needle to pierce the anterior chamber angle with a distal end of the shunt.

17. The method of any of claims 14-16, wherein the releasing step comprises removing the needle, leaving the inflow end of the shunt in the anterior chamber and the outflow end of the shunt in the suprachoroidal space.

18. The method of claim 5, wherein the positioning step comprises positioning a distal end of the needle in the suprachoroidal space and away from the anterior chamber angle.

19. The method of claim 18, wherein:

the shunt is within the needle, optionally wherein the shunt is in a needle body passageway of the needle, or

the shunt forms a sleeve around the needle.

20. The method of claim 19, wherein the positioning step comprises advancing the shunt in/around the needle to the distal end of the needle.

21. The method of claim 20, wherein the advancing comprises pushing the shunt in/around the needle using a guidewire.

22. The method of any of claims 19-21, wherein the positioning step comprises positioning the outflow end of the shunt in the suprachoroidal space and away from the anterior chamber angle.

23. The method of any of claims 19-22, wherein the positioning step comprises removing the needle from the eye, leaving the outflow end of the shunt in the suprachoroidal space.

24. The method of any of claims 19-23, further comprising piercing the anterior chamber angle to form an implant passageway.

25. The method of claim 24, wherein the inflow end of the shunt is positioned through the implant passageway in the anterior chamber.

26. The method of claim 24 or 25, wherein the implant passageway is formed using the same needle or a different piercing element.

27. The method of claim 26, wherein the same needle or different piercing element pierces through the conjunctiva, the sclera, the suprachoroidal space, and the anterior chamber angle.

28. The method of claim 26 or 27, wherein the needle is inserted into the eye at a first entry point, and the same needle or different piercing element is inserted into the eye at a second entry point different from the first entry point to form the implant passageway.

29. The method of claim 28, wherein the shunt comprises a portion between the first and second entry points that is outside the sclera.

30. The method of claim 28 or 29, wherein the shunt comprises a portion between the first and second entry points that is outside the sclera and the conjunctiva.

31. The method of claim 29, wherein the portion outside the sclera is subconjunctival.

32. The method of claim 31, wherein the method comprises cutting an opening in the conjunctiva, dissecting the conjunctiva from the sclera to form a conjunctiva flap, and after the inflow end of the shunt is positioned through the implant passageway in the anterior chamber, sewing the opening of the conjunctival flap to cover the portion of the shunt outside the sclera.

33. The method of any of claims 29-32, wherein the portion of the shunt outside the sclera comprises a shunt body outflow port, optionally wherein the shunt body outflow port is subconjunctival.

34. The method of any of claims 29-33, further comprising applying an antimetabolite between the conjunctival flap and the sclera to modulate postoperative scarring.

35. The method of any of claims 1-34, wherein the needle is inserted into the eye *ab externo*.

36. The method of any of claims 1-34, wherein the needle is inserted into the eye *ab interno*.

37. The method of any of claims 1-4, wherein the target outflow region is between the conjunctiva and the sclera, and the expanded space is a subconjunctival space, optionally wherein the subconjunctival space is a subconjunctival bleb.

38. The method of claim 37, wherein:

the shunt is within the needle, optionally wherein the shunt is in a needle body passageway of the needle;

the shunt forms a sleeve around the needle; or

the shunt is releasably coupled to a distal end of the needle.

39. A method for placing a shunt into an eye, comprising:

(a) inserting a needle into the eye to form a delivery passageway in the eye, wherein the delivery passageway ends between the sclera and the choroid/ciliary body of the eye;

(b) delivering a flowable composition through the needle to form a suprachoroidal space;

(c) piercing the anterior chamber angle of the eye with a distal end of the needle and/or a shunt releasably coupled thereto;

(d) positioning the shunt through the anterior chamber angle such that an inflow end of the shunt is in the anterior chamber and an outflow end of the shunt is in the suprachoroidal space; and

(e) removing the needle from the eye,

thereby placing the shunt in the eye to provide fluid communication between the anterior chamber and the suprachoroidal space.

40. A method for placing a shunt into an eye, comprising:

(a) inserting a needle into the eye to form a delivery passageway in the eye, wherein the delivery passageway ends between the sclera and the choroid/ciliary body of the eye;

(b) delivering a flowable composition through the needle to form a suprachoroidal space;

(c) using the needle to position an outflow end of a shunt in the suprachoroidal space and away from the anterior chamber angle;

(d) piercing the anterior chamber angle of the eye to form an implant passageway; and

(e) positioning an inflow end of the shunt in the anterior chamber through the implant passageway,

thereby placing the shunt in the eye to provide fluid communication between the anterior chamber and the suprachoroidal space.

41. The method of claim 40, wherein a portion of the shunt is outside the sclera.

42. The method of claim 41, wherein the portion of the shunt outside the sclera is subconjunctival.

43. The method of any of claims 40-42, wherein a portion of the shunt is outside the sclera and the conjunctiva.

44. The method of any of claims 40-43, wherein the shunt comprises a shunt body outflow port that is outside the sclera and subconjunctival and/or a shunt body outflow port that is outside the conjunctiva.

45. The method of claim 44, wherein the shunt provides fluid communication between the anterior chamber and the suprachoroidal space, and between the anterior chamber and a subconjunctival space.

46. The method of claim 44 or 45, wherein the shunt provides fluid communication between the anterior chamber and the suprachoroidal space, and between the anterior chamber and a space outside the conjunctiva.

47. An *ab interno* method for placing a shunt into an eye, comprising:

(a) inserting a needle and/or a shunt releasably coupled thereto through the cornea, across the anterior chamber, and to a suprachoroidal space or a subconjunctival space;

(b) delivering a flowable composition through the needle and/or the shunt into the suprachoroidal space or the subconjunctival space;

(c) positioning an inflow end of the shunt in the anterior chamber and an outflow end of the shunt in the suprachoroidal space or the subconjunctival space; and

(d) removing the needle from the eye,

thereby placing the shunt in the eye to provide fluid communication between the anterior chamber and the suprachoroidal space or the subconjunctival space.

48. The method of any of claims 1-47, wherein the shunt comprises a pharmaceutical or biological agent.

~~49. The method of any of claims 1-48, comprises using a device comprising:~~

~~a syringe barrel comprising a proximal end and a distal end;~~

~~a floating seal in the syringe barrel;~~

~~a needle base proximal to the floating seal, wherein the floating seal and the needle base elastically engage each other; and~~

~~the needle, wherein the needle comprises:~~

~~(i) a needle proximal end engaging the needle base;~~

~~(ii) a needle distal end;~~

~~(iii) a needle distal opening;~~

~~(iv) a needle body opening between the needle proximal end and the needle distal end, wherein the needle body opening is proximal to the needle distal opening; and~~

~~(v) a needle body passageway connecting the needle distal opening and the needle body opening,~~

~~wherein the needle base is configured to advance the needle distally toward and/or through the floating seal.~~

~~50. The method of claim 49, wherein the floating seal separates a proximal lumen and a distal lumen in the syringe barrel, and wherein the distal lumen comprises the flowable composition.~~

~~51. The method of claim 50, wherein the needle base is configured to advance the needle distally such that the needle distal opening is in the sclera, whereas the needle body opening is in the distal lumen comprising the flowable composition.~~

~~52. The method of claim 51, wherein the sclera is capable of preventing discharge of the flowable composition in the distal lumen through the needle distal opening, optionally wherein the back pressure at the needle distal opening in the sclera is no less than the pressure in the distal lumen.~~

~~53. The method of claim 52, wherein the needle base is configured to advance the needle distally such that the needle body opening is in the distal lumen while the needle distal opening is between the sclera and an adjacent tissue.~~

~~54. The method of claim 53, wherein the needle distal opening is between the sclera and the choroid/ciliary body, and the flowable composition is delivered through the needle to the suprachoroidal space.~~

~~55. The method of claim 53, wherein the needle distal opening is between the sclera and the conjunctiva, and the flowable composition is delivered through the needle to the subconjunctival space.~~

~~56. The method of any of claims 1-55, wherein the flowable composition comprises a liquid, a solution, a suspension, a gel, an oil, an ointment, an emulsion, a cream, a foam, a lotion, and/or a paste.~~

~~57. The method of any of claims 1-56, wherein the shunt is configured to advance distally through or along the needle and be exposed at a distal end of the needle when the needle reaches the target outflow region.~~

~~58. A system comprising the needle, the shunt, and the flowable composition for use in the method of any of claims 1-57.~~

[[59**]]**1. A system for placing a shunt into an eye, comprising:

a syringe barrel comprising a proximal end and a distal end;

a floating seal in the syringe barrel;

a needle base proximal to the floating seal, wherein the floating seal and the needle base elastically engage each other;

a needle for insertion into the eye, the needle comprising:

(i) a needle proximal end engaging the needle base;

(ii) a needle distal end;

(iii) a needle distal opening;

(iv) a needle body opening between the needle proximal end and the needle distal end, wherein the needle body opening is proximal to the needle distal opening; and

(v) a needle body passageway connecting the needle distal opening and the needle body opening,

wherein the needle base is configured to advance the needle distally toward and/or through the floating seal; and

the shunt configured to releasably couple to the needle.

~~60. The system of claim 58 or 59, wherein the shunt is an intraocular shunt within the needle.~~

~~61. The method or system of any of claims 1-60, wherein the shunt comprises a solid structure, a porous structure, a multi-layer composite structure, a membrane stent structure, or any combination thereof.~~

~~62. The method or system of any of claims 1-61, wherein the shunt comprises one or more annular rings on a sidewall of the shunt.~~

~~63. The method or system of claim 63, wherein the shunt comprises a marker ring and a retention ring on the sidewall of the shunt.~~

~~64. The method or system of any of claims 1-63, wherein the shunt comprises multiple channels each extending from one end of the shunt to the other end.~~

2. The system of claim 1, wherein the shunt is an intraocular shunt within the needle and/or the shunt forms a sleeve around the needle, optionally wherein the shunt comprises a solid structure, a porous structure, a multi-layer composite structure, a membrane stent structure, or any combination thereof.

3. The system of claim 1 or claim 2, wherein the shunt comprises one or more annular rings on a sidewall of the shunt, optionally wherein the shunt comprises a marker ring and a retention ring on the sidewall of the shunt.

4. The system of any of claims 1-3, wherein the shunt comprises multiple channels each extending from one end of the shunt to the other end.

5. The system of any of claims 1-4, wherein an inflow end of the shunt is positioned in the anterior chamber of the eye, and wherein an outflow end of the shunt is positioned in a target outflow region.

6. The system of claim 5, wherein the target outflow region is an expanded space in the eye, and/or wherein the target outflow region is between the sclera and the choroid/ciliary body.

7. The system of claim 6, wherein the target outflow region is a suprachoroidal space.

8. The system of claim 5, wherein the target outflow region is between the conjunctiva and the sclera.

9. The system of claim 8, wherein the target outflow region is a subconjunctival bleb in a subconjunctival space.

10. The system of any of claims 1-9, further comprising a guidewire, wherein the guidewire pushes the shunt in/around the needle distally.

11. The system of any of claims 1-10, further comprising a shunt body outflow port, wherein the shunt body outflow port is located between the inflow end of the shunt and the outflow end of the shunt, optionally wherein the shunt body outflow port is positioned subconjunctival.

12. The system of any of claims 1-11, for use in a method for placing the shunt into the eye, the method comprising:

(a) inserting the needle into the eye to form a delivery passageway in the eye, wherein the delivery passageway ends in a target outflow region in the eye;

(b) delivering a flowable composition through the needle to form an expanded space in the target outflow region;

(c) positioning an inflow end of the shunt in the anterior chamber of the eye and an outflow end of the shunt in the expanded space, wherein the shunt is releasably coupled to the needle; and

(d) releasing the needle from the shunt,

thereby placing the shunt in the eye to provide fluid communication between the anterior chamber and the target outflow region.

13. The system of any of claims 1-11, for use in a method for placing the shunt into the eye, comprising:

(a) inserting the needle into the eye to form a delivery passageway in the eye, wherein the delivery passageway ends between the sclera and the choroid/ciliary body of the eye;

(b) delivering a flowable composition through the needle to form a suprachoroidal space;

(c) piercing the anterior chamber angle of the eye with a distal end of the needle and/or the shunt releasably coupled thereto;

(d) positioning the shunt through the anterior chamber angle such that an inflow end of the shunt is in the anterior chamber and an outflow end of the shunt is in the suprachoroidal space; and

(e) removing the needle from the eye,

thereby placing the shunt in the eye to provide fluid communication between the anterior chamber and the suprachoroidal space.

14. The system of any of claims 1-11, for use in a method for placing the shunt into the eye, comprising:

(a) inserting the needle into the eye to form a delivery passageway in the eye, wherein the delivery passageway ends between the sclera and the choroid/ciliary body of the eye;

(b) delivering a flowable composition through the needle to form a suprachoroidal space;

(c) using the needle to position an outflow end of the shunt in the suprachoroidal space and away from the anterior chamber angle;

(d) piercing the anterior chamber angle of the eye to form an implant passageway; and

(e) positioning an inflow end of the shunt in the anterior chamber through the implant passageway,

thereby placing the shunt in the eye to provide fluid communication between the anterior chamber and the suprachoroidal space.

15. The system of any of claims 1-11, for use in an *ab interno* method for placing the shunt into the eye, comprising:

(a) inserting the needle and/or the shunt releasably coupled thereto through the cornea, across the anterior chamber, and to a suprachoroidal space or a subconjunctival space;

(b) delivering a flowable composition through the needle and/or the shunt into the suprachoroidal space or the subconjunctival space;

(c) positioning an inflow end of the shunt in the anterior chamber and an outflow end of the shunt in the suprachoroidal space or the subconjunctival space; and

(d) removing the needle from the eye,

thereby placing the shunt in the eye to provide fluid communication between the anterior chamber and the suprachoroidal space or the subconjunctival space.