CLAIMS

What is claimed is:

1. A composition comprising:

a plurality of dermal plugs harvested from tissue of a subject at a donor site, wherein the plurality of dermal plugs is minced; and

a carrier including at least one of a fluid and a gel, wherein the carrier is mixed with the minced dermal plugs to form an injectable filler, wherein the injectable filler is configured for injection into the subject.

2. The composition of claim 1, wherein the injectable filler comprises a live autologous dermal matrix (LADMIX) injectable filler.

3. The composition of claim 2, wherein the injectable filler comprises live fibroblasts.

4. The composition of claim 1, wherein the plurality of dermal plugs is harvested directly from the subject.

5. The composition of claim 1, wherein the plurality of dermal plugs is harvested from the tissue subsequent to the tissue being removed from the subject.

6. The composition of claim 1, wherein the plurality of dermal plugs exclude the epidermis, wherein the epidermis is removed in at least one region of the donor site.

7. The composition of claim 6, wherein the epidermis is removed by delaminating the epidermis from dermis in the at least one region.

8. The composition of claim 7, wherein the delaminating comprises blistering skin.

9. The composition of claim 7, wherein the delaminating comprises vibratory shearing, wherein the vibratory shearing comprises at least one of vacuum and heat.

10. The composition of claim 7, wherein the delaminating comprises superficial injection, wherein the superficial injection comprises at least one of saline and anesthetic.

11. The composition of claim 6, wherein the epidermis is removed by dermabrasion.

12. The composition of claim 1, wherein the plurality of dermal plugs is harvested by fractionally resecting at least one dermal plug from at least one region of a donor site.

13. The composition of claim 1, wherein the plurality of dermal plugs is harvested via at least one fractional resection application at the donor site.

14. The composition of claim 13, wherein the at least one fractional resection application comprises a first fractional resection application and a second fractional resection application.

15. The composition of claim 14, wherein the first fractional resection application comprises epidermis removal, wherein the second fractional resection application comprises fractional resection through dermis.

16. The composition of claim 15, wherein the second fractional resection comprises at least one of a partial-thickness fractional resection through the dermis and a full-thickness fractional resection through the dermis.

17. The composition of claim 15, wherein a fractional defect skin edge of the second fractional resection application comprises additional clearance relative to the fractional defect skin edge of the first fractional resection application.

18. The composition of claim 15, wherein at least one scalpet is inserted into the at least one donor region and, when fully inserted, rotated.

19. The composition of claim 13, wherein a housing comprising a scalpet assembly is positioned at a donor site, wherein the scalpet assembly includes a scalpet array and at least one guide plate, wherein the scalpet array includes a plurality of scalpets, wherein the at least one guide plate maintains a configuration of the plurality of scalpets.

20. The composition of claim 19, wherein at least one scalpet of the scalpet array comprises a cylindrical scalpet including a cutting surface on a distal end of the scalpet.

21. The composition of claim 19, wherein the scalpet array is deployed from the housing into tissue at the donor site and the plurality of dermal plugs is generated at the donor site.

22. The composition of claim 21, wherein at least a set of the plurality of scalpets is rotated, wherein the plurality of dermal plugs is passively extruded through a plurality of lumens of the plurality of scalpets.

23. The composition of claim 21, wherein the plurality of dermal plugs is captured by a vacuum at the donor site, wherein the vacuum comprises pressure relatively lower than ambient air pressure.

24. The composition of claim 21, wherein the scalpet array is retracted into the housing from the donor site.

25. The composition of claim 13, wherein the plurality of dermal plugs is collected in a collection chamber coupled to the scalpet array.

26. The composition of claim 25, wherein the collection chamber is configured for at least one of receiving the plurality of dermal plugs, collecting the plurality of dermal plugs, mincing the plurality of dermal plugs, mixing the plurality of dermal plugs with a carrier, and a loading chamber for loading a composition comprising the plurality of dermal plugs into at least one of a needle and an injection cannula.

27. The composition of claim 25, wherein the collection chamber includes at least one of a pressurized chamber and an unpressurized chamber.

28. The composition of claim 25, wherein the plurality of dermal plugs is minced in the collection chamber.

29. The composition of claim 28, wherein the plurality of dermal plugs is minced with a rotating blade.

30. The composition of claim 25, wherein the carrier is mixed with the minced dermal plugs in the collection chamber.

31. The composition of claim 25, wherein at least one of a needle and an injection cannula is used for the injection, wherein the collection chamber is configured as a loading chamber for the at least one of the needle and the injection cannula.

32. The composition of claim 1, wherein the plurality of dermal plugs is minced with at least one blade.

33. The composition of claim 32, wherein the mincing comprises at least one of manual mincing, powered mincing, rotary mincing, reciprocating mincing, oscillating mincing, compressive mincing, and compressive morselization.

34. The composition of claim 1, wherein the carrier includes at least one of a fluid, a gel, hyaluronic acid, hydrogel, and saline.

35. The composition of claim 1, wherein the carrier includes a bioactive agent, wherein the bioactive agent comprises a dermal growth factor.

36. The composition of claim 1, wherein the injectable filler is centrifuged.

37. The composition of claim 1, wherein the injectable filler is injected from a syringe.

38. The composition of claim 1, wherein the injectable filler is injected during a same procedure as harvesting of the plurality of dermal plugs.

39. The composition of claim 1, wherein the injectable filler is configured to be injected into a recipient site on the subject, wherein the recipient site is different from the donor site.

40. The composition of claim 39, wherein a pocket is generated at the recipient site for receiving the injectable filler, wherein the pocket is generated when at least one of a needle and an injection cannula is advanced into a region adjacent the recipient site, wherein the injectable filler is injected into the pocket using the at least one of the needle and the injection cannula.

41. A system, comprising:

a handpiece configured to removably couple to a proximal end of a housing, wherein the handpiece includes a drive system;

a scalpet assembly configured to removeably couple to a distal end of the housing and the drive system, wherein the scalpet assembly includes a scalpet array comprising a plurality of scalpets configured for rotation using force delivered from the drive system, wherein the scalpet array is configured to harvest a plurality of dermal plugs from a donor site via fractional resection; and

a collection chamber coupled to the housing and configured to collect the plurality of dermal plugs generated by the scalpet assembly, wherein the collection chamber is further configured to house formation of an injectable filler by mincing the

dermal plugs, and mixing the dermal plugs with a carrier, wherein the injectable filler is configured for injection into the subject.

42. The system of claim 41, wherein the injectable filler comprises a live autologous dermal matrix (LADMIX) injectable filler.

43. The system of claim 42, wherein the injectable filler comprises live fibroblasts.

44. The system of claim 41, wherein the carrier includes at least one of a fluid, a gel, hyaluronic acid, hydrogel, and saline.

45. The system of claim 41, wherein the carrier includes a bioactive agent, wherein the bioactive agent comprises a dermal growth factor.

46. The system of claim 41, wherein the housing includes a vacuum port configured for coupling to a vacuum source, wherein the vacuum comprises pressure relatively lower than ambient air pressure, wherein the housing is configured to capture the plurality of dermal plugs using the vacuum.

47. The system of claim 41, wherein the plurality of dermal plugs is collected in the collection chamber, wherein the collection chamber includes at least one of a pressurized chamber and an unpressurized chamber.

48. The system of claim 41, comprising an end cap configured to removeably couple to the distal end of the housing, wherein the end cap includes a fitting configured to couple to at least one of a medical instrument and a plug, wherein the end cap replaces the scalpet assembly subsequent to collection of the plurality of dermal plugs.

49. The system of claim 48, comprising a mincing blade configured to removeably couple to the drive system for rotation using force delivered from the drive system,

wherein the mincing blade replaces the scalpet assembly subsequent to collection of the plurality of dermal plugs.

50. The system of claim 49, wherein the plurality of dermal plugs is minced in the collection chamber.

51. The system of claim 49, wherein the mincing comprises at least one of rotary mincing, reciprocating mincing, oscillating mincing, and compressive morselization.

52. The system of claim 48, wherein the collection chamber is configured to load a composition comprising the dermal plugs into at least one of a syringe and an injection cannula coupled to the fitting, wherein the at least one of the syringe and the injection cannula is used for the injection.

53. The system of claim 52, wherein the injectable filler is configured to be injected into a recipient site on the subject, wherein the recipient site is different from the donor site.

54. The system of claim 53, wherein a pocket is generated at the recipient site for receiving the injectable filler, wherein the pocket is generated when at least one of a needle and an injection cannula is advanced into a region adjacent the recipient site, wherein the injectable filler is injected into the pocket using the at least one of the needle and the injection cannula.

55. The system of claim 41, wherein the scalpet array is deployed from the housing into tissue at the donor site and the plurality of dermal plugs are generated at the donor site.

56. The system of claim 41, wherein the plurality of dermal plugs is passively extruded through a plurality of lumens of the plurality of scalpets.

57. The system of claim 41, wherein the plurality of dermal plugs excludes the epidermis, wherein the epidermis is removed in at least one region of the donor site.

58. The system of claim 41, wherein the plurality of dermal plugs is harvested by fractionally resecting at least one dermal plug from at least one region of the donor site.

59. The system of claim 41, wherein the plurality of dermal plugs is harvested via at least one fractional resection application at the donor site.

60. The system of claim 59, wherein the at least one fractional resection application comprises a first fractional resection application and a second fractional resection application, wherein the first fractional resection application comprises epidermis removal, wherein the second fractional resection application comprises fractional resection through dermis.

61. The system of claim 60, wherein the second fractional resection comprises at least one of a partial-thickness fractional resection through the dermis, and a full-thickness fractional resection through the dermis.

62. The system of claim 60, wherein a fractional defect skin edge of the second fractional resection application comprises additional clearance relative to the fractional defect skin edge of the first fractional resection application.

63. The system of claim 60, wherein at least one scalpet is inserted into the donor site and, when fully inserted, rotated.

64. The system of claim 41, comprising at least one bandage configured for application at the donor site subsequent to harvesting of the plurality of dermal plugs, wherein the at least one bandage is configured to apply a directional force to control a direction of the closure.

65. The system of claim 41, wherein the drive system comprises a geared drive system.

66. The system of claim 41, wherein the scalpet assembly is configured to transmit an axial force to the target site, wherein the axial force comprises at least one of a continuous axial force and an impact force.

67. The system of claim 41, wherein at least one scalpet of the scalpet array comprises a cylindrical scalpet including a cutting surface on a distal end of the scalpet.

68. The system of claim 67, wherein the cutting surface includes at least one of a sharpened edge and a serrated edge.

69. The system of claim 41, comprising a vibration system coupled to the scalpet array.

70. The system of claim 41, comprising an electromagnetic system coupled to the scalpet array and configured to couple electromagnetic energy to the scalpet array, wherein the electromagnetic energy includes at least one of radio frequency (RF) energy, laser energy, and ultrasonic energy.