

CLAIMS:

1. A connector for an infusion set comprising:
a body and at least one arm connected to the body which is configured to couple
with a base of an infusion set;
5 wherein the body has a first portion and a second portion which are configured to
be removably and replaceably coupled together; and
wherein each portion has a fluid delivery conduit, the conduits being configured to
allow fluidic communication of the connector with at least two independent fluid
sources.
- 10 2. The connector according to claim 1, wherein each fluid delivery conduit defines an
independent fluid path.
3. The connector according to claim 1 or claim 2, wherein the conduits are
configured to allow fluidic communication of the connector with two to four, two to
three, or two independent fluid sources.
- 15 4. The connector according to any one of claims 1 to 3 comprising one or more
guide members configured to aid coupling of the connector with the base of the
infusion set.
5. The connector according to claim 4, wherein the one or more guide members
extend from the body of the connector.
- 20 6. The connector according to claim 4 or claim 5, wherein the guide members have
a substantially uniform cross-section.
7. The connector according to any one of claims 1 to 6, wherein the body comprises
at least two penetrating elements.
8. The connector according to any one of claims 1 to 7, wherein the body comprises
25 two to four, two to three, or two penetrating elements.
9. The connector according to claim 7 or claim 8, wherein each penetrating element
is coupled to and extends from the body of the connector to facilitate coupling of
the connector to the infusion set.
10. The connector according to any one of claims 7 to 9, wherein each penetrating
30 element is associated with a fluid delivery conduit and each penetrating element
extends from the body of the connector.

11. The connector according to any one of claims 1 to 10, wherein the at least one arm has a non-uniform cross-section and a coupling means for connecting with the base of the infusion set.
12. The connector according to claim 11, wherein the coupling means comprises a hooked end or an inclined surface.
13. The connector according to any one of claims 1 to 12, wherein the first and second portions are connected with complementary surface features.
14. The connector according to claim 13, wherein the first portion has one or more protrusion or rib extending outwardly from a surface, and the second portion has one or more complementary groove or recess formed within a surface, or wherein the second portion has one or more protrusion or rib extending outwardly from a surface, and the first portion has one or more complementary groove or recess formed within a surface.
15. The connector according to claim 14, wherein the surface feature associated with the first portion is a rail type element and the surface feature associated with the second portion includes a channel that is sized and configured for receiving and reversibly coupling with the rail type element.
16. The connector according to any one or claims 14 or 15, wherein the first and second portions are connected with complementary male and female parts.
17. The connector according to claim 16, wherein the first portion has a male part extending outwardly therefrom and the second portion has a female part therein, wherein the male part of the first portion is configured to couple with the female part of the second portion.
18. The connector according to claim 17, wherein the second portion has a male part extending outwardly therefrom and the first portion has a female part therein, wherein the male part of the second portion is configured to couple with the female part of the first portion.
19. The connector according to any one of claims 16 to 18, wherein the male and female parts form a bayonet connection.
20. The connector according to any one of claims 1 to 19, wherein the first and second portions are configured to be coupled together along at least a portion of the length of the body.

21. The connector according to any one of claims 1 to 20, wherein the fluid delivery conduit of the first portion is for fluidic communication with a first fluid source, and the fluid delivery conduit of the second portion is for fluidic communication with a second fluid source.
- 5 22. An infusion set for administering multiple fluids to a subject, the infusion set comprising a base, an insertion portion, and a connector;
 wherein the base comprises an adhesive portion, a hub configured to couple with the connector, and at least one lumen configured to receive the insertion portion; wherein the insertion portion comprises at least one penetrating element
 10 which is coupled to and extends from the base to administer the multiple fluids sub- or trans-cutaneously to the subject; and
 wherein the connector comprises a body, at least one arm connected to the body which is configured to couple with the hub of the base, and at least two independent fluid delivery conduits which are configured to allow fluidic
 15 communication between at least two independent fluid sources and the at least one penetrating element.
23. The infusion set according to claim 22, wherein the connector is defined according to any one of claims 1 to 21.
24. The infusion set according to claim 22 or claim 23, comprising two or more
 20 insertion portions, wherein the base comprises two or more lumens and each lumen independently receives each of the insertion portions.
25. The infusion set according to claim 22 or claim 23, comprising an insertion portion, wherein the base comprises a lumen configured to receive the insertion portion and wherein said insertion portion has at least one penetrating element
 25 connected to and extending from a housing, the housing having at least two chambers configured to allow fluidic communication between at least two independent fluid sources and the at least one penetrating element, wherein the at least two chambers are independent from each other.
26. The infusion set according to claim 25, wherein the base has at least two
 30 channels which substantially align with the at least two chambers of the housing and are configured to allow fluidic communication with the at least two independent fluid sources.
27. The infusion set according to claim 25 or claim 26, wherein each of the chambers of the housing has an opening for fluidic communication with the at least one

- penetrating element and an opening for fluidic communication with one of the fluid delivery conduits of the connector.
28. The infusion set according to any one of claims 25 to 27, wherein the chambers of the housing are spaced apart from each other.
- 5 29. The infusion set according to any one of claims 25 to 28, wherein the chambers are separated by an intermediary wall in the housing.
30. The infusion set according to any one of claims 22 to 29, wherein the at least one penetrating element comprises a piercing member or a self-penetrating cannula.
31. The infusion set according to any one of claims 22 to 30, wherein the at least one
10 penetrating element comprises a multi-lumen cannula.
32. The infusion set according to claim 31, wherein the multi-lumen cannula has a first lumen with a distal end for fluid communication between the placement site and a first fluid source, and a second lumen with a distal end for fluid
15 communication between the placement site and a second fluid source, wherein the first and second lumens are independent from each other.
33. The infusion set according to claim 32, wherein the distal end of the first lumen is spaced apart from the distal end of the second lumen.
34. The infusion set according to claim 32, wherein the first lumen is an outer lumen and the second lumen is an inner lumen, or wherein the first lumen is an inner
20 lumen and the second lumen is an outer lumen.
35. The infusion set according to any one of claims 31 to 34, wherein the multi-lumen cannula comprises a piercing member between a first lumen and a second lumen, wherein both lumens run along the length of the cannula and are independent from each other.
- 25 36. The infusion set according to any one of claims 31 to 35, wherein the proximal end of at least one lumen includes a notch.
37. The infusion set according to any one of claims 22 to 36, further comprising a sensor portion, wherein the sensor portion has at least one sensor extending from the base which is configured for determining at least one body characteristic of
30 the subject.

38. The infusion set according to claim 37, wherein the sensor portion comprises a lumen in the at least one penetrating element for the at least one sensor.
39. The infusion set according to claim 38 or claim 39, wherein the sensor portion further comprises a groove in the insertion portion housing and a groove in the base.
40. The infusion set according to any one of claims 22 to 39, further comprising a cap for coupling with the base.
41. The infusion set according to claim 40, wherein the base has at least two channels configured to allow fluidic communication with the at least two independent fluid sources, and the cap has at least one track on its inside surface for coupling with said channels.
42. The infusion set according to claim 41, wherein the at least one track for coupling with the housing is formed from a membrane material.
43. Use of the connector according to any one of claims 1 to 21 in an infusion set for sub- or trans-cutaneous delivery of at least two independent fluids to a patient in need thereof.
44. Use of the infusion set according to any one of claims 22 to 42 for sub- or trans-cutaneous delivery of at least two independent fluids to a patient in need thereof.
45. The use according to claim 43 or claim 44, wherein at least one of the fluids comprises a first drug or a first hormone.
46. The use according to any one of claims 43 to 45, wherein at least one of the fluids comprises a second drug or a second hormone.
47. The use according to any one of claims 43 to 46, wherein at least one of the fluids comprises insulin.
48. The use according to any one of claims 43 to 47, wherein at least one of the fluids comprises glucagon.
49. The use according to any one of claims 43 to 48, wherein at least one of the fluids comprises morphine or hydromorphone.

50. The use according to any one of claims 43 to 49, wherein at least one of the fluids comprises metoclopramide or dexamethasone.
51. A method for sub- or trans-cutaneously delivering at least two independent fluids to a patient in need thereof, comprising providing an infusion set according to any one of claims 22 to 42, placing said infusion set on the skin of a patient, connecting each fluid delivery conduit of the connector to at least two independent fluid sources, and delivering said at least two independent fluids to the patient.
52. The method according to claim 51, wherein the connector of the infusion set is defined according to any one of claims 1 to 21.
53. The method according to claim 51 or claim 52, wherein at least one of the fluids comprises a first drug or a first hormone.
54. The method according to any one of claims 51 to 53, wherein at least one of the fluids comprises a second drug or a second hormone.
55. The method according to any one of claims 51 to 54, wherein at least one of the fluids comprises insulin.
56. The method according to any one of claims 51 to 55, wherein at least one of the fluids comprises glucagon.
57. The method according to any one of claims 51 to 56, wherein at least one of the fluids comprises morphine or hydromorphone.
58. The method according to any one of claims 51 to 57, wherein at least one of the fluids comprises metoclopramide or dexamethasone.