

CLAIMS

1. A drug administration device for subcutaneously administering a drug, comprising:

5 a main body portion configured to be arranged on skin of a patient;~~and~~

a movable portion to which at least one needle member protruding toward the skin is attached~~;~~ and

at least one coupling portion that couples the main

10 body portion and the movable portion,

wherein the movable portion is configured to be capable of being moved ~~between~~ together with the needle member from a first position that is spaced apart from the skin ~~and to~~ a second position that is near the skin and from
15 the second position to the first position,

a leading end portion of the needle member is to be inserted into the skin when the movable portion is located at the second position,~~and~~

the drug is to be discharged from a hole provided in
20 the needle member, and

the main body portion, the movable portion, and the coupling portion are formed as a single body.

2. The drug administration device according to claim 1,
25 wherein the movable portion is configured to be held at at least one of the first position and the second position in a state in which an external force is not applied to the movable portion.

~~3. The drug administration device according to claim 1 or 2, further comprising: at least one coupling portion that couples the main body portion and the movable portion to each other and is configured to be capable of holding the movable portion at at least one of the first position and the second position.~~

3. The drug administration device according to claim 1 or 2, wherein the drug administration device is configured such that the force required to move the movable portion to the second position is smaller than the force required to move the movable portion to the first position.

4. The drug administration device according to claim 3, wherein a plurality of the coupling portions are provided, and

the coupling portions are constituted by a plurality of parts that are radially arranged around the needle member at predetermined intervals.

5. The drug administration device according to claim 4, wherein the coupling portions are formed of a material that can be elastically deformed, and are configured to enter a first state when located at the first position and enter a second state when located at the second position,

the coupling portions in the second state are bent, and the coupling portions in the first state are more

stretched than those in the second state, and

the coupling portions are configured to make a transition between the first state and the second state while being elastically deformed.

5 6. The drug administration device according to claim 4 or 5, wherein two to ten coupling portions are provided.

~~7. The drug administration device according to any one of claims 3 to 6,~~

10 ~~wherein the main body portion, the movable portion, and the coupling portion are formed as a single body.~~

~~7.~~ The drug administration device according to any one of claims 3 to ~~7~~6,

15 wherein the main body portion, the movable portion, and the coupling portion are formed of an elastically deformable elastomer, hard resin, or metal.

~~8.~~ The drug administration device according to any one of claims 1 to ~~8~~7,

20 wherein the main body portion is formed in a tubular shape, and

the movable portion is configured such that at least a portion of the movable portion is accommodated in the main body portion when the movable portion is located at the second position.

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~~10.~~ The drug administration device according to any one of claims 1 to ~~10~~9,

wherein a drug line for supplying the drug can be attached, and

the drug is supplied from the drug line to the needle member.

5 ~~11~~10. The drug administration device according to any one of claims 1 to ~~10~~9, further comprising

an operation portion that is coupled to the movable portion and can be held by tools or fingers.

10 ~~12~~11. The drug administration device according to claim ~~11~~10, wherein the operation portion is formed in a plate shape whose external size is larger than that of the main body portion.

15 ~~13~~12. The drug administration device according to claim ~~12~~11, further comprising

an extension portion connected to the operation portion,

20 wherein the extension portion covers at least a portion of the main body portion when the movable portion is located at the second position.

~~14~~13. The drug administration device according to claim ~~11~~10 or ~~13~~12,

25 wherein the operation portion is configured to protrude outward from the outer circumference of the movable portion in a radial direction, and

a stopper is further included that is detachably

arranged between the operation portion and the main body portion when the movable portion is located at the first position, and restricts movement of the movable portion to the second position.

5 ~~15~~14. The drug administration device according to any one of claims 1 to ~~14~~13, further comprising
a storage portion for storing the drug,
wherein the drug is supplied from the storage portion to the needle member.

10 ~~16~~15. The drug administration device according to any one of claims 1 to ~~15~~14, further comprising a base that supports the main body ~~portion~~ and is to be arranged on the skin.

15 ~~17~~16. The drug administration device according to claim ~~16~~15, further comprising an adhering material arranged on at least a portion of a surface of the base that is to be brought into contact with the skin.

20 ~~18~~17. The drug administration device according to claim ~~16~~15 or ~~17~~16, wherein a recessed portion is provided on a surface of a circumferential edge portion of the base that is to be opposite to the skin so as to form a gap formed
25 between the base and the skin.

~~19~~18. The drug administration device according to any one of claims ~~16~~15 to ~~18~~17,

wherein a plurality of drug administration portions are arranged on the base, and

each of the plurality of drug administration portions includes the main body portion, the movable portion, and
5 the needle member.

~~20~~19. The drug administration device according to claim 19, wherein all of the movable portions of the drug administration portions are coupled to each other.

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~~21~~20. The drug administration device according to any one of claims 3 to ~~8~~7, further comprising

a base that supports the main body portion and is to be arranged on the skin,

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wherein the base, the main body portion, the movable portion, and the coupling portion are formed of an elastomer as a single body.

~~22~~21. The drug administration device according to any one
20 of claims 1 to ~~15~~14,

wherein the main body portion is configured to be attached to the skin, and

the main body portion is provided with a recessed portion so as to form a gap between the main body portion
25 and the skin.

~~23~~22. The drug administration device according to any one of claims ~~11~~10 to ~~22~~21, wherein the needle member is fixed

to the operation portion, and the operation portion can be detached from the movable portion together with the needle member.

5 ~~24~~23. The drug administration device according to any one of claims 1 to ~~23~~22, further comprising a detaching means for detaching the needle member from the movable portion.

10 ~~25~~24. The drug administration device according to any one of claims 1 to ~~24~~22, further comprising
 a cover member that can cover at least a leading end of the needle member,
 wherein the leading end of the needle member is exposed from the cover member when the movable portion is
15 located at the second position, and the cover member covers the leading end of the needle member and this covering state is maintained after the movable portion is moved from the second position to the first position.

20 ~~26~~25. The drug administration device according to claim ~~25~~24, wherein, at the first position before use, the leading end of the needle member is covered by the cover member.

25 ~~27~~26. The drug administration device according to claim ~~25~~24 or ~~26~~25,
 wherein the cover member is configured to be capable of being detached from the movable portion together with the needle member.

~~28~~27. The drug administration device according to any one of claims 1 to ~~27~~26, wherein the needle member has a thickness of a gauge of 30 to 35.

5 ~~29~~28. The drug administration device according to any one of claims 1 to ~~28~~27, wherein a portion of the needle member protruding from a surface of the drug administration device that is to be fixed to the skin has a length of 1 to 10 mm.

10 ~~30~~29. The drug administration device according to any one of claims 1 to ~~29~~28, further comprising an accommodation portion configured to accommodate at least the movable portion when the movable portion is located at the second position.

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~~31~~30. The drug administration device according to any one of claims 1 to ~~30~~29, wherein the needle member is configured to be capable of being rotated around the axis of the needle member relative to the movable portion.

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~~32~~31. A drug administration system comprising:

at least one drug administration device according to any one of claims 1 to ~~31~~30;

at least one drug container; and

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a drug line for supplying a drug from the drug container to the drug administration device.

~~33~~32. A drug administration system, comprising;

at least one drug administration device according to

| any one of claims 1 to ~~31~~30; and

a syringe capable of supplying a drug to the needle member.