Claims

1. A wearable drug delivery device comprising:

an outer housing attachable to a patient;

a drug storage container positioned at least partially within the outer housing;

an insertion mechanism positioned at least partially within the outer housing and including:

an insertion mechanism housing,

a rotational biasing member configured to rotate the insertion mechanism housing, wherein at least a portion of the rotational biasing member surrounds at least a portion of the insertion mechanism housing, and

a delivery member connected or configured to be connected in fluid communication with the drug storage container and configured for insertion into the patient; and

a retainer selectively moveable with respect to the insertion mechanism housing, the retainer having a first position wherein the retainer is operably coupled with the insertion mechanism housing to prevent rotation of the insertion mechanism housing and a second position wherein the retainer is at least temporarily uncoupled from the insertion mechanism housing to allow rotation of the insertion mechanism housing.

2. The wearable drug delivery device of claim 1, wherein the delivery member is operably coupled with the insertion mechanism housing such that initial rotation of the insertion mechanism housing causes the delivery member to be inserted into the patient.

3. The wearable drug delivery device of claim 1 or claim 2, wherein the insertion mechanism housing comprises a protrusion, the protrusion contacting the retainer when the retainer is in the first position and not contacting the retainer when the retainer is in the second position.

4. The wearable drug delivery device of claim 3, wherein the protrusion extends outwardly from a cylindrical portion of the insertion mechanism housing.

5. The wearable drug delivery device of any one of claims 1 to 4, wherein at least a portion of the retainer moves linearly in moving from the first position to the second position.

6. The wearable drug delivery device of claim 5, wherein the at least a portion of the retainer moves in a direction perpendicular to a rotational axis of the insertion mechanism housing.

7. The wearable drug delivery device of any one of claims 1 to 6, comprising a drive mechanism positioned at least partially within the outer housing, the drive mechanism being configured to move a drug out of the drug storage container and into the patient via the delivery member.

8. The wearable drug delivery device of claim 7, wherein the drive mechanism is configured to move at least a portion of the retainer with respect to the insertion mechanism housing.

9. The wearable drug delivery device of any one of claims 1 to 8, wherein the rotational biasing member comprises a torsion spring.

10. The wearable drug delivery device of any one of claims 1 to 9, wherein the delivery member comprises a needle.

11. The wearable drug delivery device of claim 10, wherein the needle is hollow.

12. The wearable drug delivery device of any one of claims 1 to 11, comprising an adhesive patch disposed on a bottom surface of the outer housing for attaching the outer housing to the patient.

13. The wearable drug delivery device of any one of claims 1 to 12, wherein the outer housing is removably attachable to the patient.

14. A method comprising:

providing a wearable drug delivery device comprising an outer housing, a drug storage container positioned at least partially within the outer housing, an insertion mechanism positioned at least partially within the outer housing, the insertion mechanism including an insertion mechanism housing, a rotational biasing member configured to rotate the insertion mechanism housing, a delivery member configured for insertion into a patient, and a retainer having a first position wherein the retainer is operably coupled with the insertion mechanism housing to prevent rotation of the insertion mechanism housing and a second position wherein the retainer is at least temporarily uncoupled from the insertion

mechanism housing to allow rotation of the insertion mechanism housing, wherein at least a portion of the rotational biasing member surrounds at least a portion of the insertion mechanism housing;

moving the retainer from the first position to the second position to allow the rotational biasing member to rotate of the insertion mechanism housing, wherein rotation of the insertion mechanism housing causes movement of the delivery member in an insertion direction; and

moving a drug out of the drug storage container into the delivery member.

15. The method of claim 14, wherein the insertion mechanism housing comprises a protrusion, the protrusion contacting the retainer when the retainer is in the first position and not contacting the retainer when the retainer is in the second position.