CLAIMS

1. A self-injection tool to assist with injecting a beneficial agent from a syringe, the syringe comprising a barrel having a first end and a second end, a shoulder proximate the first end, a needle in fluid communication with the barrel and having a proximal end and a distal end extending from the first end of the barrel, a flange disposed proximate the second end of the barrel, a cap covering the needle and having an end disposed proximate the shoulder, and a plunger movable within the barrel to expel beneficial agent through the needle, the self-injection tool comprising:

a base having a proximal end, a distal end, and a barrel engagement portion defining a cavity having a longitudinal axis and disposed between the proximal and distal end of the base to receive at least a portion of the barrel with the distal end of the needle extending a first distance from the distal end of the base; and

a shroud member having a proximal end and a distal end, the proximal end of the shroud member movably coupled to the base, the shroud member being movable between a fully-extended position wherein the distal end of the shroud member is an extended distance from the distal end of the base and a fully-retracted position wherein the distal end of the shroud member is a retracted distance from the distal end of the base;

wherein the extended distance is greater than or equal to the first distance, and the retracted distance is less than the first distance.

2. The self-injection tool of claim 1, wherein the shroud member is biased toward the extended position.

3. The self-injection tool of claim 1, wherein the distal end of the shroud member comprises a substantially planar engagement surface having a notch therein.

4. The self-injection tool of claim 1, wherein the distal end of the shroud member comprises a substantially planar engagement surface having a through-hole therein.

5. The self-injection tool of claim 1, wherein the shroud member further comprises a tubular portion disposed between the proximal end and the distal end of the shroud member.

6. The self-injection tool of claim 1, wherein the base further comprises at least one flange engagement portion defining a slot to receive at least a portion of the flange and inhibit movement of the barrel along the longitudinal axis.

7. The self-injection tool of claim 6, wherein the base includes a housing, and wherein the self-injection tool further comprises a cover hingedly joined to the base and rotatable relative the base between an open position and a closed position.

8. The self-injection tool of claim 7, wherein the barrel engagement portion is movable relative the housing, the barrel engagement portion further comprising a cap engagement portion having an opening sized to receive at least a portion of the first end of the barrel, the cap engagement portion positioned to engage the end of the cap proximate the shoulder, the cap engagement portion being movable relative the housing to urge the cap away from the barrel.

9. The self-injection tool of claim 8, wherein the cap engagement portion comprises a U-shaped notch.

10. The self-injection tool of claim 7, wherein the housing comprises a bottom and at least one sidewall extending from the bottom, and wherein the cover is joined to the housing proximate at least one of the at least one sidewall.

11. The self-injection tool of claim 10, wherein the at least one sidewall has a substantially rounded shape.

12. The self-injection tool of claim 10, wherein the housing comprises a proximal face extending from the bottom and disposed perpendicular to the at least one sidewall.

13. The self-injection tool of claim 12, wherein the proximal face comprises an opening to receive at least a portion of the plunger therethrough when the at least a portion of the barrel is disposed within the barrel engagement cavity.

14. The self-injection tool of claim 7, wherein the cover has at least one projection to engage the barrel when the cover is in the closed position.

15. The self-injection tool of claim 8, wherein the cap engagement portion is movable relative the at least one flange engagement portion when the cover is rotated relative the base from the open position to the closed position.

16. The self-injection tool of claim 7, wherein the syringe is held in engagement when the cover is moved to the closed position.

17. The self-injection tool of claim 6, further comprising a flange adaptor having a recess to receive the flange and at least one wing element configured to be engaged by the flange engagement portions.

18. The self-injection tool of claim 7, wherein the base further comprises a lock mechanism movable between a non-locking position and a locking position when the cover is rotated relative the base from the open position to the closed position;

the proximal end of the shroud comprises at least one locking projection; and

wherein the at least one locking projection is configured to engage the lock mechanism when the lock mechanism is in the locking position and the shroud member is in the retracted position.

19. The self-injection tool of claim 18, wherein the lock mechanism is movable from the locking position toward the non-locking position to disengage the at least one locking projection when the cover is rotated relative the base from the closed position toward the open position.

20. The self-injection tool of claim 1, wherein the beneficial agent comprises TNF inhibitor.

21. A kit comprising:

a syringe comprising a barrel having a first end and a second end and defining a longitudinal axis therebetween, a shoulder proximate the first end, a needle in fluid communication with the barrel and having a proximal end and a distal end extending from the first end of the barrel, a flange disposed proximate the second end of the barrel, a cap covering the needle and having an end disposed proximate the shoulder, and a plunger movable within the barrel to expel beneficial agent through the needle; and

a self-injection tool comprising a base having a proximal end, a distal end, and a barrel engagement portion defining a cavity disposed between the proximal and distal end of the base to receive at least a portion of the barrel with the distal end of the needle extending a first distance from the distal end of the base;

a shroud member having a proximal end and a distal end, the proximal end of the shroud member movably coupled to the base, the shroud member being movable between a fully-extended position wherein the distal end of the shroud member is an extended distance from the distal end of the base and a fully-retracted position wherein the distal end of the shroud member is a retracted distance from the distal end of the base;

wherein the extended distance is greater than or equal to the first distance, and the retracted distance is less than the first distance.

CLAIMS

1. A self-injection tool to assist with injecting a beneficial agent from a syringe, the self-injection tool comprising:

a base having a proximal end, a distal end, and a barrel engagement portion defining a cavity having a longitudinal axis and disposed between the proximal and distal end of the base to receive at least a portion of a syringe barrel with a distal end of a syringe needle extending a first distance from the distal end of the base; and

a shroud member having a proximal end and a distal end, the proximal end of the shroud member movably coupled to the base, the shroud member being movable between a fully-extended position wherein the distal end of the shroud member is an extended distance from the distal end of the base and a fully-retracted position wherein the distal end of the shroud member is a retracted distance from the distal end of the base;

wherein the extended distance is greater than or equal to the first distance, and the retracted distance is less than the first distance.

2. The self-injection tool of claim 1, wherein the shroud member is biased toward the extended position.

3. The self-injection tool of claim 1, wherein the distal end of the shroud member comprises a substantially planar engagement surface having a notch therein.

4. The self-injection tool of claim 1, wherein the distal end of the shroud member comprises a substantially planar engagement surface having a through-hole therein.

5. The self-injection tool of claim 1, wherein the shroud member further comprises a tubular portion disposed between the proximal end and the distal end of the shroud member.

6. The self-injection tool of claim 1, wherein the base further comprises at least one flange engagement portion defining a slot to receive at least a portion of the flange and inhibit movement of the barrel along the longitudinal axis.

7. The self-injection tool of claim 6, wherein the base includes a housing, and wherein the self-injection tool further comprises a cover hingedly joined to the base and rotatable relative the base between an open position and a closed position.

8. The self-injection tool of claim 7, wherein the barrel engagement portion is movable relative the housing, the barrel engagement portion further comprising a cap engagement portion having an opening sized to receive at least a portion of the first end of the barrel, the cap engagement portion positioned to engage the end of the cap proximate the shoulder, the cap engagement portion being movable relative the housing to urge the cap away from the barrel.

9. The self-injection tool of claim 8, wherein the cap engagement portion comprises a U-shaped notch.

10. The self-injection tool of claim 7, wherein the housing comprises a bottom and at least one sidewall extending from the bottom, and wherein the cover is joined to the housing proximate at least one of the at least one sidewall.

11. The self-injection tool of claim 10, wherein the at least one sidewall has a substantially rounded shape.

12. The self-injection tool of claim 10, wherein the housing comprises a proximal face extending from the bottom and disposed perpendicular to the at least one sidewall.

13. The self-injection tool of claim 12, wherein the proximal face comprises an opening to receive at least a portion of the plunger there through when the at least a portion of the barrel is disposed within the barrel engagement cavity.

14. The self-injection tool of claim 7, wherein the cover has at least one projection to engage the barrel when the cover is in the closed position.

15. The self-injection tool of claim 8, wherein the cap engagement portion is movable relative the at least one flange engagement portion when the cover is rotated relative the base from the open position to the closed position.

16. The self-injection tool of claim 7, wherein the syringe is held in engagement when the cover is moved to the closed position.

17. The self-injection tool of claim 6, further comprising a flange adaptor having a recess to receive the flange and at least one wing element configured to be engaged by the flange engagement portions.

18. The self-injection tool of claim 7, wherein the base further comprises a lock mechanism movable between a non-locking position and a locking position when the cover is rotated relative the base from the open position to the closed position;

the proximal end of the shroud comprises at least one locking projection; and

wherein the at least one locking projection is configured to engage the lock mechanism when the lock mechanism is in the locking position and the shroud member is in the retracted position.

19. The self-injection tool of claim 18, wherein the lock mechanism is movable from the locking position toward the non-locking position to disengage the at least one locking projection when the cover is rotated relative the base from the closed position toward the open position.

20. The self-injection tool of claim 1, wherein the beneficial agent comprises TNF inhibitor.

21. A kit comprising:

a syringe comprising a barrel having a first end and a second end and defining a longitudinal axis therebetween, a shoulder proximate the first end, a needle in fluid communication with the barrel and having a proximal end and a distal end extending from the first end of the barrel, a flange disposed proximate the second end of the barrel, a cap covering the needle and having an end disposed proximate the shoulder, and a plunger movable within the barrel to expel beneficial agent through the needle;

and

a self-injection tool comprising a base having a proximal end, a distal end, and a barrel engagement portion defining a cavity disposed between the proximal and distal end of the base to receive at least a portion of the barrel with the distal end of the needle extending a first distance from the distal end of the base;

a shroud member having a proximal end and a distal end, the proximal end of the shroud member movably coupled to the base, the shroud member being movable between a fully-

extended position wherein the distal end of the shroud member is an extended distance from the distal end of the base and a fully-retracted position wherein the distal end of the shroud member is a retracted distance from the distal end of the base;

wherein the extended distance is greater than or equal to the first distance, and the retracted distance is less than the first distance.

22. The self-injection tool of claim 3, wherein the planar surface of the shroud member comprises one or more surface features to engage with skin at an injection site during injection.

23. The self-injection tool of claim 3, wherein the notch comprises a U-shaped notch.