THE INVENTION CLAIMED IS:

1. A catheter locking solution comprising:
a local anesthetic having anticoagulant and antimicrobial activity; and
a viscosifying agent.

2. The catheter locking solution of claim 1, wherein the local anesthetic comprises an amino amide; an amino ester; an aminoacylanilide; an aminoalkyl benzoate; an amino carbonate; an N-phenylamidine compound; an N-aminoalkyl amid; an aminoketone, or combinations and mixtures thereof.

3. The catheter locking solution of claim 1, wherein the local anesthetic comprises dibucaine, tetracaine, bupivacaine, ropivacaine, etidocaine, lidocaine, prilocaine, procaine, novocaine, choloroprocaine, propoxycaine, chlorocaine, mepivacaine, xylocaine, benzocaine, chloroprocaine, cyclomethycaine, dimethocaine, popoxycaine, proparacaine, articaine, carticaine, levobupivacaine, piperocaine, trimecaine, hexylcaine, benoxinate, butucaine, diperodon, phenacaine, falicaine, dyclonine, pramoxine, dimethisoquien, and combinations and mixtures thereof.

4. The catheter locking solution of claim 1, wherein the local anesthetic is present in an amount of 0.05 mg/mL – 100 mg/mL.

5. The catheter locking solution of claim 1, wherein the local anesthetic is present in an amount of 0.24 mg/mL – 28.2 mg/mL.

6. The catheter locking solution of claim 1, wherein the viscosifying agent comprises polyethylene glycol, glycerin, polygeline, or any mixture thereof.

7. The catheter locking solution of claim 1, wherein the viscosifying agent changes the viscosity of the catheter locking solution to less than or equal to 4 MPa·s.

8. The catheter locking solution of claim 1, wherein the local anesthetic is tetracaine and the viscosifying agent is polyethylene glycol.

9. The catheter locking solution of claim 1, wherein the local anesthetic is dibucaine and the viscosifying agent is polyethylene glycol.

10. The catheter locking solution of claim 1, further comprising an additional antimicrobial agent.

11. The catheter locking solution of claim 1, further comprising an additional anticoagulation agent.

12. A pre-filled syringe comprising a syringe containing a locking solution, said locking solution comprising:

a local anesthetic having anticoagulant and antimicrobial activity; and

a viscosifying agent.

13. The pre-filled syringe of claim 12, wherein the local anesthetic comprises an amino amide; an amino ester; an aminoacylanilide; an aminoalkyl benzoate; an amino carbonate; an N-phenylamidine compound; an N-aminoalkyl amid; an aminoketone, or combinations and mixtures thereof.

14. The pre-filled syringe of claim 12, wherein the local anesthetic comprises dibucaine, tetracaine, bupivacaine, ropivacaine, etidocaine, lidocaine, prilocaine, procaine, novocaine, choloroprocaine, propoxycaine, chlorocaine, mepivacaine, xylocaine, benzocaine, chloroprocaine, cyclomethycaine, dimethocaine, popoxycaine, articaine, carticaine, levobupivacaine, piperocaine, trimecaine, hexylcaine, benoxinate, butucaine, proparacaine, diperodon, phenacaine, falicaine, dyclonine, pramoxine, dimethisoquien, and combinations and mixtures thereof.

15. The pre-filled syringe of claim 12, wherein the local anesthetic is present in an amount of 0.05 mg/mL – 100 mg/mL.

16. The pre-filled syringe of claim 12, wherein the local anesthetic is present in an amount of 0.24 mg/mL – 28.2 mg/mL.

17. The pre-filled syringe of claim 12, wherein the viscosifying agent comprises polyethylene glycol, glycerin, polygeline, or any mixture thereof.

18. The pre-filled syringe of claim 12, wherein the local anesthetic is tetracaine and the viscosifying agent is polyethylene glycol.

19. The pre-filled syringe of claim 12, wherein the local anesthetic is dibucaine and the viscosifying agent is polyethylene glycol.

20. The pre-filled syringe of claim 12, further comprising an additional antimicrobial agent.

21. The pre-filled syringe of claim 12, further comprising an additional anticoagulation agent.

22. A catheter comprising a tube defining a lumen therethrough, wherein at least a portion of the lumen is infused with a catheter locking solution, said catheter locking solution comprising:

a local anesthetic having anticoagulant and antimicrobial activity; and

a viscosifying agent.

23. The catheter of claim 22, wherein the local anesthetic comprises an amino amide; an amino ester; an aminoacylanilide; an aminoalkyl benzoate; an amino carbonate; an N-phenylamidine compound; an N-aminoalkyl amid; an aminoketone, or combinations and mixtures thereof.

24. The catheter of claim 22, wherein the local anesthetic comprises dibucaine, tetracaine, bupivacaine, ropivacaine, etidocaine, lidocaine, prilocaine, procaine, novocaine, choloroprocaine, propoxycaine, chlorocaine, mepivacaine, xylocaine, benzocaine, chloroprocaine, cyclomethycaine, dimethocaine, popoxycaine, articaine, carticaine, levobupivacaine, piperocaine, trimecaine, hexylcaine, benoxinate, butucaine, proparacaine, diperodon, phenacaine, falicaine, dyclonine, pramoxine, dimethisoquien, and combinations and mixtures thereof.

25. A catheter locking solution comprising:

a local anesthetic having anticoagulant and antimicrobial activity, wherein the local anesthetic is tetracaine; and

a viscosifying agent, wherein the viscosifying agent is polyethylene glycol,

wherein the local anesthetic is present in an amount of 0.24 mg/mL – 28.2 mg/mL.

26. A catheter locking solution comprising:

a local anesthetic having anticoagulant and antimicrobial activity, wherein the local anesthetic is dibucaine; and

a viscosifying agent, wherein the viscosifying agents is polyethylene glycol, wherein the local anesthetic is present in an amount of 0.24mg/mL -- 28.2mg/mL.

27. A method of inhibiting microbial activity and coagulation in a catheter, the method comprising:

providing a catheter having an interior surface and an exterior surface; and

infusing into at least a portion of the interior surface a catheter locking solution comprising a local anesthetic having anticoagulant and antimicrobial activity and a viscosifying agent.

28. The method of claim 27, further comprising reinfusing said interior surface of said catheter with the catheter locking solution after a designated time, wherein said designated time is less than one week.

29. The method of claim 27, wherein the interior surface of the catheter has an internal volume and said infusing includes infusing the interior surface with an amount of the lock solution sufficient to fill between about 80% and 100% of the internal volume of the interior surface.

30. The method of claim 27, wherein the interior surface of the catheter may be infused between 1 and 1000 times.

THE INVENTION CLAIMED IS:

1. A catheter locking solution comprising:
a local anesthetic having anticoagulant and antimicrobial activity; and
a viscosifying agent.

2. The catheter locking solution of claim 1, wherein the local anesthetic comprises an amino amide; an amino ester; an aminoacylanilide; an aminoalkyl benzoate; an amino carbonate; an N-phenylamidine compound; an N-aminoalkyl amid; an aminoketone, or combinations and mixtures thereof.

3. The catheter locking solution of claim 1, wherein the local anesthetic comprises dibucaine, tetracaine, bupivacaine, ropivacaine, etidocaine, lidocaine, prilocaine, procaine, novocaine, choloroprocaine, propoxycaine, chlorocaine, mepivacaine, xylocaine, benzocaine, chloroprocaine, cyclomethycaine, dimethocaine, popoxycaine, proparacaine, articaine, carticaine, levobupivacaine, piperocaine, trimecaine, hexylcaine, benoxinate, butucaine, diperodon, phenacaine, falicaine, dyclonine, pramoxine, dimethisoquien, and combinations and mixtures thereof.

4. The catheter locking solution of claim 1, wherein the local anesthetic is present in an amount of 0.05 mg/mL – 100 mg/mL.

5. The catheter locking solution of claim 1, wherein the local anesthetic is present in an amount of 0.24 mg/mL – 28.2 mg/mL.

6. The catheter locking solution of claim 1, wherein the viscosifying agent comprises polyethylene glycol, glycerin, polygeline, or any mixture thereof.

7. The catheter locking solution of claim 1, wherein the viscosifying agent changes the viscosity of the catheter locking solution to less than or equal to 4 MPa·s.

8. The catheter locking solution of claim 1, wherein the local anesthetic is tetracaine and the viscosifying agent is polyethylene glycol.

9. The catheter locking solution of claim 1, wherein the local anesthetic is dibucaine and the viscosifying agent is polyethylene glycol.

10. The catheter locking solution of claim 1, further comprising an additional antimicrobial agent.

11. The catheter locking solution of claim 1, further comprising an additional anticoagulation agent.

12. A pre-filled syringe comprising a syringe containing a locking solution, said locking solution comprising:

a local anesthetic having anticoagulant and antimicrobial activity; and

a viscosifying agent.

13. The pre-filled syringe of claim 12, wherein the local anesthetic comprises an amino amide; an amino ester; an aminoacylanilide; an aminoalkyl benzoate; an amino carbonate; an N-phenylamidine compound; an N-aminoalkyl amid; an aminoketone, or combinations and mixtures thereof.

14. The pre-filled syringe of claim 12, wherein the local anesthetic comprises dibucaine, tetracaine, bupivacaine, ropivacaine, etidocaine, lidocaine, prilocaine, procaine, novocaine, choloroprocaine, propoxycaine, chlorocaine, mepivacaine, xylocaine, benzocaine, chloroprocaine, cyclomethycaine, dimethocaine, popoxycaine, articaine, carticaine, levobupivacaine, piperocaine, trimecaine, hexylcaine, benoxinate, butucaine, proparacaine, diperodon, phenacaine, falicaine, dyclonine, pramoxine, dimethisoquien, and combinations and mixtures thereof.

15. The pre-filled syringe of claim 12, wherein the local anesthetic is present in an amount of 0.05 mg/mL – 100 mg/mL.

16. The pre-filled syringe of claim 12, wherein the local anesthetic is present in an amount of 0.24 mg/mL – 28.2 mg/mL.

17. The pre-filled syringe of claim 12, wherein the viscosifying agent comprises polyethylene glycol, glycerin, polygeline, or any mixture thereof.

18. The pre-filled syringe of claim 12, wherein the local anesthetic is tetracaine and the viscosifying agent is polyethylene glycol.

19. The pre-filled syringe of claim 12, wherein the local anesthetic is dibucaine and the viscosifying agent is polyethylene glycol.

20. The pre-filled syringe of claim 12, further comprising an additional antimicrobial agent.

21. The pre-filled syringe of claim 12, further comprising an additional anticoagulation agent.

22. A catheter comprising a tube defining a lumen therethrough, wherein at least a portion of the lumen is infused with a catheter locking solution, said catheter locking solution comprising:

a local anesthetic having anticoagulant and antimicrobial activity; and

a viscosifying agent.

23. The catheter of claim 22, wherein the local anesthetic comprises an amino amide; an amino ester; an aminoacylanilide; an aminoalkyl benzoate; an amino carbonate; an N-phenylamidine compound; an N-aminoalkyl amid; an aminoketone, or combinations and mixtures thereof.

24. The catheter of claim 22, wherein the local anesthetic comprises dibucaine, tetracaine, bupivacaine, ropivacaine, etidocaine, lidocaine, prilocaine, procaine, novocaine, choloroprocaine, propoxycaine, chlorocaine, mepivacaine, xylocaine, benzocaine, chloroprocaine, cyclomethycaine, dimethocaine, popoxycaine, articaine, carticaine, levobupivacaine, piperocaine, trimecaine, hexylcaine, benoxinate, butucaine, proparacaine, diperodon, phenacaine, falicaine, dyclonine, pramoxine, dimethisoquien, and combinations and mixtures thereof.

25. A catheter locking solution comprising:

a local anesthetic having anticoagulant and antimicrobial activity, wherein the local anesthetic is tetracaine; and

a viscosifying agent, wherein the viscosifying agent is polyethylene glycol,

wherein the local anesthetic is present in an amount of 0.24 mg/mL – 28.2 mg/mL.

26. A catheter locking solution comprising:

a local anesthetic having anticoagulant and antimicrobial activity, wherein the local anesthetic is dibucaine; and

a viscosifying agent, wherein the viscosifying agents is polyethylene glycol, wherein the local anesthetic is present in an amount of 0.24mg/mL – 28.2mg/mL.

27. A catheter having an interior surface and an exterior surface comprising a catheter locking solution comprising a local anesthetic having both anticoagulant and antimicrobial activity and a viscosifying agent infused into the interior surface of the catheter for use in inhibition of microbial activity and coagulation in the catheter.

28. The catheter of claim 27, in which said interior surface of said catheter is reinfused with the catheter locking solution after a designated time, wherein said designated time is less than one week.

29. The catheter of claim 27, wherein the interior surface of the catheter has an internal volume and said infusing includes infusing the interior surface with an amount of the catheter locking solution sufficient to fill between about 80% and 100% of the internal volume of the interior surface.

30. The catheter of claim 27, wherein the interior surface of the catheter is infused between 1 and 1000 times.