~~INTRAURINARY~~ INTRAUTERINE SYSTEMS, IUD INSERTION DEVICES, AND RELATED METHODS AND KITS THEREFOR

CROSS-REFERENCE

[0001] This application claims the benefit of U.S. Utility Application **13/539,843** filed **July 2, 2012**, which claims the benefit of U.S. Provisional Application No. **61/506,434**, filed **July 11, 2011**, which application is incorporated herein by reference.

BACKGROUND OF THE INVENTION

[0002] Field of the Invention: The disclosure relates to intraurinary systems, intrauterine devices (IUDs), insertion devices, methods of use, and kits therefor.

[0003] Background of the Invention: An intrauterine device (IUD) is an object that, when placed in the uterus of a female, acts as a birth control device to prevent pregnancy. Two types of IUDs are commonly available, copper-containing devices and hormone-containing devices that release a progestogen. Hormonal containing devices are considered to be a different form of birth control and are may be distinguished in the literature by the term intrauterine system (IUS).

[0004] Copper IUDs work by negatively affecting the mobility of sperm and preventing the sperm from joining an egg. Additionally, the foreign copper body positioned within the uterus also irritates the lining of the uterus and uterine wall making it difficult for an embryo to plant in the wall if the egg is fertilized by the sperm. IUS devices, such as the hormonal IUD Mirena® (marketed by Bayer) reduce or prevent menstrual bleeding. The Mirena® device releases levonorgestresl (a progestogen).

[0005] A variety of shapes and sizes have been previously disclosed for IUD devices. See, for example, U.S. Patent **3,407,806** to Hulka et al for *Contraceptive Intra-Uterine Devices* issued October 29, 1968; **3,902,483** to Place et al. for *Intrauterine Device with Locator Means for Indicating Uterine Position of Device* issued September 2, 1975; **4,372,302** to Akerlund for *Instrument for Retrieval of Retracted Threads of Intrauterine Contraceptive Devices* issued February 8, 1983; **3,973,217** to Kosenen for *Intrauterine Contraceptive Device* issued February 10, 1976; **4,353,363** to Sopena Quesada for *Intrauterine Spermacide* issued October 12, 1982; **4,359,046** to Shaw Jr. for *IUD Arrangement* issued November 16, 1982; **4,381,001** to Shaw Jr. for *IUD Arrangement* issued April 26, 1983; **4,495,934** to Shaw Jr. for *IUD Arrangement* issued January 29, 1985; **4,830,025** to Gainutdinova et al. for *Intrauterine Contraceptive Device* issued May 16, 1989; **4,957,119** to de Nijs for *Contraceptive Implant* issued September 18, 1990; **5,088,505** to de Nijs for *Contraceptive Implant* issued February 18, 1992; **6,039,968** to Nabahi for *Intravaginal Drug Delivery Device* issued March 21, 2000; **7,862,552** to McIntyre et al. for *Medical Devices for Treating Urological and Uterine Conditions* issued January 4, 2011; and U.S. Patent Publications **2005/0045183 A1** to Callister et al. for *Methods and Devices* issued March 3, 2005.

CLAIMS

WHAT IS CLAIMED IS:

1. An insertion device comprising:

an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end;

an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath;

a proximally positioned user interface, wherein the proximally positioned user interface further comprises one or more elongated guides formed at least partially therein and along at least a portion of a length thereof; and

a moveable sheath slider in communication with the elongated sheath wherein the moveable sheath slider is adaptable and configurable to securely move within the elongated guide and further wherein the moveable sheath slider controls axial movement of the elongated sheath.

2. The insertion device of claim **1**, wherein the elongated guide further comprises one or more motion control features along the length of the elongated guide.

3. The insertion device of claim **2**, wherein the one or more motion control features are selected from the group comprising a hard motion control feature, a soft motion control feature.

4. The insertion device of claim **2**, wherein the one or more motion control features comprises at least one force-limiting feature configurable to limit an amount of force applied to the moveable sheath slider.

5. The insertion device of claim **3** wherein the one or more motion control features are selected from the group comprising detents, notches, grooves, protrusions, tabs, ridges, flanges, flaps, gates, flexible members, elongated guide contours, and elongated guide curved surface.

6. The insertion device of claim **1**, wherein the elongated guide has a length, a width and a depth, and further wherein the elongated guide width is at least one of a variable length along and a staged width selected from two or more of a first width and a second width.

7. The insertion device of claim **1**, wherein the elongated guide has an in-plane profile selected from rectangular, s-shaped, c-shaped, u-shaped, w-shaped, circular, semi-circular, and oval.

8. The insertion device of claim **2**, wherein the sheath slider comprises one or more surface profiles adapted and configured to mechanically complement the one or more motion control features.

9. The insertion device of claim **8**, wherein the one or more surface profiles of the sheath slider are selected from the group comprising one or more of each of non-planar surfaces, curved surfaces, and angled surfaces.

10. The insertion device of claim **1**, wherein the housing and the sheath slider further comprises one or more alignment surfaces, wherein the one or more alignment surfaces of the housing is adapted and configured to mechanically complement the one or more alignment surfaces of the sheath.

11. The insertion device of claim **10** wherein a first sheath slider alignment surface aligns with a first housing alignment surface at a first position along the length of the elongated guide.

12. The insertion device of claim **10**, wherein the one or more sheath slider alignment surfaces and the one or more housing alignment surfaces are selected from the group comprising a curved surface, an angled surface, a tilted surface and a dimensional surface.

13. The insertion device of claim **1**, wherein the elongated guide further comprises one or more cavities on one or more of the proximal end of the elongated guide and the distal end of the elongated guide wherein the one or more cavities are adapted and configured to house at least a portion of the movable sheath slider.

14. The insertion device of claim **1**, further comprising a string control slider.

15. The insertion device of claim **14**, wherein the string control slider is adaptable and configurable to securely move within the elongated guide.

16. The insertion device of claim **14**, wherein the elongated sheath slider and the string control slider are adapted and configured to operate at least one of simultaneously and independently within one or more elongated guides.

17. The insertion device of claim **14**, wherein the sheath slider and the string control slider are telescopically movable along at least a first portion of the elongated guide, and further wherein the sheath slider and the string control slider are configurable such that at least one of the sheath slider and the string slider partially surrounds the remaining slider.

18. The insertion device of claim **14**, wherein the sheath slider and string control slider are further configurable to comprise one or more vertical surfaces, wherein the one or more vertical surfaces are selected from the group comprising a first sheath slider vertical surface, a second sheath slider vertical surface, a first string control slider vertical surface, and a second string control vertical

surface, wherein one or more of the vertical surfaces are configured to form an aligned adjacent surface at one or more positions along the length of the elongated guide.

19. The insertion device of claim **14**, wherein the sheath slider and the string control slider have a combined width less than or equal to at least one of 0.75 inches (19 mm), 0.7 inches (17.8 mm), 0.5 inches (12.7 mm), 0.35 inches (8.9 mm), or 0.25 inches (6.3 mm).

20. The insertion device of claim **1**, wherein the insertion device is configurable to receive an IUD within the distal end of the lumen of the elongated sheath further comprising at least one string locking feature adaptable and configurable to secure one or more string components of the IUD.

21. The insertion device of claim **20**, wherein the at least one string locking feature comprises one or more of a cleft, a clamp, a wedge, a pincher, a spring, or teeth.

22. The insertion device of claim **21**, wherein the string locking feature comprises a cleft, and the string unlocking feature comprises a movable member which pushes the one or more strings out of the cleft to unlock the one or more strings.

23. The insertion device of claim **1**, wherein the distal end of the elongated sheath has an atraumatic tip selected from the group comprising a rounded tip and a tapered tip.

24. The insertion device of claim **23**, wherein the distal end of the elongated sheath has an outer diameter of about 3mm to 5mm.

25. The insertion device of claim **23**, wherein the distal end of the elongated sheath has an outer diameter which is equal to or less than 80%, 50%, 30% of the outer diameter of the proximal end of the elongated sheath.

26. The insertion device of claim **23**, wherein the distal end of the elongated sheath has an outer diameter which is less than the maximum cross-sectional dimension of an IUD positionable within the lumen of the elongated sheath.

27. The insertion device of claim **23**, wherein the distal end of the elongated sheath further comprises one or more slits or flaps at the forward end of the sheath.

28. The insertion device of claim **1** further comprising one or more feedback mechanisms selected from the group comprising audible, visible, and tactile.

29. An insertion device comprising:

an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end;

an elongated inner member having a proximal end and a distal end disposable within at least a portion of the lumen of the elongated sheath;

a proximally positioned user interface; and

an actuatable sheath control button associated with the proximally positioned user interface in communication with the elongated sheath wherein the actuatable sheath control button is adaptable and configurable to controls axial movement of the elongated sheath wherein the elongated sheath extends distally from the housing, and wherein the sheath control button causes the sheath to proximally retract when the sheath control button is actuated.

30. The insertion device of claim **29**, further comprising an elongated guide and one or more motion control features along the length of the elongated guide.

31. The insertion device of claim **30**, wherein the one or more motion control features are selected from the group comprising a hard motion control feature, a soft motion control feature.

32. The insertion device of claim **30**, wherein the one or more motion control features comprises at least one force-limiting feature configurable to limit an amount of force applied to the moveable sheath slider.

33. The insertion device of claim **32** wherein the one or more motion control features are selected from the group comprising detents, notches, grooves, protrusions, tabs, ridges, flanges, flaps, gates, flexible members, elongated guide contours, and elongated guide curved surface.

34. The insertion device of claim **29**, wherein the elongated guide has a length, a width and a depth, and further wherein the elongated guide width is at least one of a variable length along and a staged width selected from two or more of a first width and a second width.

35. The insertion device of claim **29**, wherein the elongated guide has an in-plane profile selected from rectangular, s-shaped, c-shaped, u-shaped, w-shaped, circular, semi-circular, and oval.

36. The insertion device of claim **30**, wherein the sheath slider comprises one or more surface profiles adapted and configured to mechanically complement the one or more motion control features.

37. The insertion device of claim **36**, wherein the one or more surface profiles of the sheath slider are selected from the group comprising one or more of each of non-planar surfaces, curved surfaces, and angled surfaces.

38. The insertion device of claim **29**, wherein the housing and the sheath slider further comprises one or more alignment surfaces, wherein the one or more alignment surfaces of the housing is adapted and configured to mechanically complement the one or more alignment surfaces of the sheath.

39. The insertion device of claim **38** wherein a first sheath slider alignment surface aligns with a first housing alignment surface at a first position along the length of the elongated guide.

40. The insertion device of claim **38**, wherein the one or more sheath slider alignment surfaces and the one or more housing alignment surfaces are selected from the group comprising a curved surface, an angled surface, a tilted surface and a dimensional surface.

41. The insertion device of claim **29**, wherein the insertion device is configurable to receive an IUD within the distal end of the lumen of the elongated sheath and wherein the insertion device further comprises at least one of a string locking feature and a string control button adaptable and configurable to secure one or more string components of the IUD.

42. The insertion device of claim **41**, wherein the at least one string locking feature comprises one or more of a cleft, a clamp, a wedge, a pincher, a spring, or teeth.

43. The insertion device of claim **42**, wherein the string locking feature comprises a cleft, and the string unlocking feature comprises a movable member which pushes the one or more strings out of the cleft to unlock the one or more strings.

44. The insertion device of claim **41**, wherein the sheath control button and the string control button are disposable adjacent to one another on the housing.

45. The insertion device of claim **41**, wherein the combined width of the sheath control slider button interface and the string control slider button interface is less than or equal to at least one of 0.75 inches (19 mm), 0.7 inches (17.8 mm), 0.5 inches (12.7 mm), 0.35 inches (8.9 mm), or 0.25 inches (6.3 mm).

46. The insertion device of claim **30**, wherein the sheath control button and the string control slider button are configurable such that at least one of the sheath control slider button and the string control slider button partially surrounds the remaining button.

47. The insertion device of claim **30**, wherein two or more of the sheath control button, the string control button, and housing are further configurable to comprise one or more vertical surfaces, wherein the one or more vertical surfaces are selected from the group comprising a first sheath control button vertical surface, a second sheath control button vertical surface, a first string control button vertical surface, and a second string control button vertical surface, a first housing vertical surface and a second housing vertical surface wherein one or more of the vertical surfaces are configured to form an aligned adjacent surface at one or more positions along the length of the housing.

48. The insertion device of claim **29**, wherein the distal end of the elongated sheath has an atraumatic tip selected from the group comprising a rounded tip and a tapered tip.

49. The insertion device of claim **36**, wherein the distal end of the elongated sheath has an outer diameter of about 3mm to 5 mm.

50. The insertion device of claim **37**, wherein the distal end of the elongated sheath has an outer diameter which is equal to or less than at least one of 80%, 50%, 30% of the outer diameter of the proximal end of the elongated sheath.

51. The insertion device of claim **36**, wherein the distal end of the elongated sheath has an outer diameter which is less than the maximum cross-sectional dimension of an IUD positionable within the lumen of the elongated sheath.

52. The insertion device of claim **36**, wherein the distal end of the elongated sheath further comprises one or more slits or flaps at the forward end of the sheath.

53. The insertion device of claim **29** further comprising one or more feedback mechanisms selected from the group comprising audible, visible, and tactile.

54. An insertion device comprising:

an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end wherein the distal end of the elongated sheath forms an atraumatic tip selected from the group comprising a rounded tip and a tapered tip;

an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath; and

a proximally positioned user interface.

55. The insertion device of claim **54**, wherein the elongated guide further comprises one or more motion control features along the length of the elongated guide.

56. The insertion device of claim **55**, wherein the one or more motion control features are selected from the group comprising a hard motion control feature, a soft motion control feature.

57. The insertion device of claim **55**, wherein the one or more motion control features comprises at least one force-limiting feature configurable to limit an amount of force applied to the moveable sheath slider.

58. The insertion device of claim **57** wherein the one or more motion control features are selected from the group comprising detents, notches, grooves, protrusions, tabs, ridges, flanges, flaps, gates, flexible members, elongated guide contours, and elongated guide curved surface.

59. The insertion device of claim **54**, wherein the elongated guide has a length, a width and a depth, and further wherein the elongated guide width is at least one of a variable length along and a staged width selected from two or more of a first width and a second width.

60. The insertion device of claim **54**, wherein the elongated guide has an in-plane profile selected from rectangular, s-shaped, c-shaped, u-shaped, w-shaped, circular, semi-circular, and oval.

61. The insertion device of claim **55**, wherein the sheath slider comprises one or more surface profiles adapted and configured to mechanically complement the one or more motion control features.

62. The insertion device of claim **61**, wherein the one or more surface profiles of the sheath slider are selected from the group comprising one or more of each of non-planar surfaces, curved surfaces, and angled surfaces.

63. The insertion device of claim **54**, wherein the housing and the sheath slider further comprises one or more alignment surfaces, wherein the one or more alignment surfaces of the housing

is adapted and configured to mechanically complement the one or more alignment surfaces of the sheath.

64. The insertion device of claim **63** wherein a first sheath slider alignment surface aligns with a first housing alignment surface at a first position along the length of the elongated guide.

65. The insertion device of claim **63**, wherein the one or more sheath slider alignment surfaces and the one or more housing alignment surfaces are selected from the group comprising a curved surface, an angled surface, a tilted surface and a dimensional surface.

66. The insertion device of claim **54**, wherein the elongated guide further comprises one or more cavities on one or more of the proximal end of the elongated guide and the distal end of the elongated guide wherein the one or more cavities are adapted and configured to house at least a portion of the movable sheath slider.

67. The insertion device of claim **54**, further comprising a string control slider.

68. The insertion device of claim **67**, wherein the string control slider is adaptable and configurable to securely move within the elongated guide.

69. The insertion device of claim **67**, wherein the elongated sheath slider and the string control slider are adapted and configured to operate at least one of simultaneously and independently within one or more elongated guides.

70. The insertion device of claim **67**, wherein the sheath slider and the string control slider are telescopically movable along at least a first portion of the elongated guide, and further wherein the sheath slider and the string control slider are configurable such that at least one of the sheath slider and the string slider partially surrounds the remaining slider.

71. The insertion device of claim **67**, wherein the sheath slider and string control slider are further configurable to comprise one or more vertical surfaces, wherein the one or more vertical surfaces are selected from the group comprising a first sheath slider vertical surface, a second sheath slider vertical surface, a first string control slider vertical surface, and a second string control vertical surface, wherein one or more of the vertical surfaces are configured to form an aligned adjacent surface at one or more positions along the length of the elongated guide.

72. The insertion device of claim **54**, wherein the distal end of the elongated sheath has an outer diameter which is less than an outer diameter of the proximal end of the sheath.

73. The insertion device of claim **54**, wherein the insertion device is configurable to receive an IUD within the distal end of the lumen of the elongated sheath further comprising at least one of a string locking feature and a string control button adaptable and configurable to secure one or more string components of the IUD.

74. The insertion device of claim **73**, wherein the at least one string locking feature comprises one or more of a cleft, a clamp, a wedge, a pincher, a spring, or teeth.

75. The insertion device of claim **74**, wherein the string locking feature comprises a cleft, and the string unlocking feature comprises a movable member which pushes the one or more strings out of the cleft to unlock the one or more strings.

76. The insertion device of claim **73**, wherein the sheath control button and the string control button are disposable adjacent to one another on the housing.

77. The insertion device of claim **73**, wherein the combined width of the sheath control slider button interface and the string control slider button interface is less than or equal to at least one of 0.75 inches (19 mm), 0.7 inches (17.8 mm), 0.5 inches (12.7 mm), 0.35 inches (8.9 mm), or 0.25 inches (6.3 mm)..

78. The insertion device of claim **54**, wherein the sheath control slider button and the string control slider button are configurable such that at least one of the sheath control slider button and the string control slider button partially surrounds the remaining button.

79. The insertion device of claim **54**, wherein two or more of the sheath control button, the string control button, and housing are further configurable to comprise one or more vertical surfaces, wherein the one or more vertical surfaces are selected from the group comprising a first sheath control button vertical surface, a second sheath control button vertical surface, a first string control button vertical surface, and a second string control button vertical surface, a first housing vertical surface and a second housing vertical surface wherein one or more of the vertical surfaces are configured to form an aligned adjacent surface at one or more positions along the length of the housing.

80. The insertion device of claim **54**, further comprising one or more cavities one wherein the one or more cavities are adapted and configured to house at least a portion of the proximal end of the elongated sheath.

81. The insertion device of claim **54**, wherein the distal end of the elongated sheath has an outer diameter of about 3mm to 5mm.

82. The insertion device of claim **54**, wherein the distal end of the elongated sheath has an outer diameter equal to or less than 80%, 50%, 30% of the outer diameter of the proximal end of the elongated sheath.

83. The insertion device of claim **54**, wherein the distal end of the elongated sheath has an outer diameter which is less than the maximum cross-sectional dimension of an IUD positionable within the lumen of the elongated sheath.

84. The insertion device of claim **54**, wherein the distal end of the elongated sheath further comprises one or more slits or flaps at the forward end of the sheath.

85. The insertion device of claim **54** further comprising one or more feedback mechanisms selected from the group comprising audible, visible, and tactile.

86. A kit comprising:

an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end; an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath; a proximally positioned user interface, wherein the proximally positioned user interface further comprises one or more elongated guides formed at least partially therein and along at least a portion of a length thereof; and a moveable sheath slider in communication with the elongated sheath wherein the moveable sheath slider is adaptable and configurable to securely move within the elongated guide and further wherein the moveable sheath slider controls axial movement of the elongated sheath; and

an intrauterine device positionable within the distal lumen of the elongated sheath.

87. A kit comprising:

an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end, an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath, a proximally positioned user interface, and an actuatable sheath control button associated with the proximally positioned user interface in communication with the elongated sheath wherein the actuatable sheath slider is adaptable and configurable to controls axial movement of the elongated sheath, wherein the elongated sheath extends outward from the housing, and wherein the sheath control button causes the sheath to proximally retract when the sheath control button is actuated, and

an intrauterine device positionable within the distal lumen of the elongated sheath.

88. A kit comprising

an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end, wherein the distal end of the elongated sheath forms an atraumatic tip selected from the group comprising a rounded tip and a tapered tip, an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath, and a proximally positioned user interface; and

an intrauterine device positionable within the distal lumen of the elongated sheath.

89. A method of using an insertion device comprising:

advancing an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end; an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath; a proximally positioned user interface, wherein the proximally positioned user interface further comprises one or more elongated guides formed at least partially therein and along at least a portion of a length thereof; and a moveable sheath slider in communication with the elongated sheath wherein the moveable sheath slider is adaptable and configurable to securely move within the elongated guide and further wherein the moveable sheath slider controls axial movement of the elongated sheath;

actuating the sheath slider;

at least one of moving the elongated sheath proximally and advancing the IUD distally;

automatically or semi-automatically increasing a radial diameter of the IUD; and

releasing the IUD from the insertion device.

90. A method of using an insertion device comprising:

advancing an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end, an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath, a proximally positioned user interface, and an actuatable sheath control button associated with the proximally positioned user interface in communication with the elongated sheath wherein the actuatable sheath slider is adaptable and configurable to controls axial movement of the elongated sheath, wherein the elongated sheath extends outward from the housing, and wherein the sheath control button causes the sheath to proximally retract when the sheath control button is actuated;

actuating the sheath control button;

at least one of moving the elongated sheath proximally and advancing the IUD distally;

automatically or semi-automatically increasing a radial diameter of the IUD; and

releasing the IUD from the insertion device.

91. A method of using an insertion device comprising:

advancing an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end, wherein the distal end of the elongated sheath forms an atraumatic tip selected from the group comprising

a rounded tip and a tapered tip, an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath, and a proximally positioned user interface;

at least one of moving the elongated sheath proximally and advancing the IUD distally;

automatically or semi-automatically increasing a radial diameter of the IUD; and

releasing the IUD from the insertion device.

CLAIMS

WHAT IS CLAIMED IS:

1. An insertion device comprising:

an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end wherein the distal end of the elongated sheath forms an atraumatic tip selected from the group comprising a rounded tip and a tapered tip;

an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath; and

a proximally positioned user interface.

2. The insertion device of claim 1, wherein the elongated guide further comprises one or more motion control features along the length of the elongated guide.

3. The insertion device of claim 2, wherein the one or more motion control features are selected from the group comprising a hard motion control feature, a soft motion control feature.

4. The insertion device of claim 2, wherein the one or more motion control features comprises at least one force-limiting feature configurable to limit an amount of force applied to the moveable sheath slider.

5. The insertion device of claim 4, wherein the one or more motion control features are selected from the group comprising detents, notches, grooves, protrusions, tabs, ridges, flanges, flaps, gates, flexible members, elongated guide contours, and elongated guide curved surface.

6. The insertion device of claim 1, wherein the elongated guide has a length, a width and a depth, and further wherein the elongated guide width is at least one of a variable length along and a staged width selected from two or more of a first width and a second width.

7. The insertion device of claim 1, wherein the elongated guide has an in-plane profile selected from rectangular, s-shaped, c-shaped, u-shaped, w-shaped, circular, semi-circular, and oval.

8. The insertion device of claim 2, wherein the sheath slider comprises one or more surface profiles adapted and configured to mechanically complement the one or more motion control features.

9. The insertion device of claim 8, wherein the one or more surface profiles of the sheath slider are selected from the group comprising one or more of each of non-planar surfaces, curved surfaces, and angled surfaces.

10. The insertion device of claim 1, wherein the housing and the sheath slider further comprises one or more alignment surfaces, wherein the one or more alignment surfaces of the housing is adapted and configured to mechanically complement the one or more alignment surfaces of the sheath.

11. The insertion device of claim 10, wherein a first sheath slider alignment surface aligns with a first housing alignment surface at a first position along the length of the elongated guide.

12. The insertion device of claim 10, wherein the one or more sheath slider alignment surfaces and the one or more housing alignment surfaces are selected from the group comprising a curved surface, an angled surface, a tilted surface and a dimensional surface.

13. The insertion device of claim 1, wherein the elongated guide further comprises one or more cavities on one or more of the proximal end of the elongated guide and the distal end of the elongated guide wherein the one or more cavities are adapted and configured to house at least a portion of the movable sheath slider.

14. The insertion device of claim 1, further comprising a string control slider.

15. The insertion device of claim 14, wherein the string control slider is adaptable and configurable to securely move within the elongated guide.

16. The insertion device of claim 14, wherein the elongated sheath slider and the string control slider are adapted and configured to operate at least one of simultaneously and independently within one or more elongated guides.

17. The insertion device of claim 14, wherein the sheath slider and the string control slider are telescopically movable along at least a first portion of the elongated guide, and further wherein the sheath slider and the string control slider are configurable such that at least one of the sheath slider and the string slider partially surrounds the remaining slider.

18. The insertion device of claim 14, wherein the sheath slider and string control slider are further configurable to comprise one or more vertical surfaces, wherein the one or more vertical surfaces are selected from the group comprising a first sheath slider vertical surface, a second sheath slider vertical surface, a first string control slider vertical surface, and a second string control vertical surface, wherein one or more of the vertical surfaces are configured to form an aligned adjacent surface at one or more positions along the length of the elongated guide.

19. The insertion device of claim 1, wherein the distal end of the elongated sheath has an outer diameter which is less than an outer diameter of the proximal end of the sheath.

20. The insertion device of claim 1, wherein the insertion device is configurable to receive an IUD within the distal end of the lumen of the elongated sheath further comprising at least one of a string locking feature and a string control button adaptable and configurable to secure one or more string components of the IUD.

21. The insertion device of claim 20, wherein the at least one string locking feature comprises one or more of a cleft, a clamp, a wedge, a pincher, a spring, or teeth.

22. The insertion device of claim 21, wherein the string locking feature comprises a cleft, and the string unlocking feature comprises a movable member which pushes the one or more strings out of the cleft to unlock the one or more strings.

23. The insertion device of claim 20, wherein the sheath control button and the string control button are disposable adjacent to one another on the housing.

24. The insertion device of claim 20, wherein the combined width of the sheath control slider button interface and the string control slider button interface is less than or equal to at least one of 0.75 inches (19 mm), 0.7 inches (17.8 mm), 0.5 inches (12.7 mm), 0.35 inches (8.9 mm), or 0.25 inches (6.3 mm).

25. The insertion device of claim 1, wherein the sheath control slider button and the string control slider button are configurable such that at least one of the sheath control slider button and the string control slider button partially surrounds the remaining button.

26. The insertion device of claim 1, wherein two or more of the sheath control button, the string control button, and housing are further configurable to comprise one or more vertical surfaces, wherein the one or more vertical surfaces are selected from the group comprising a first sheath control button vertical surface, a second sheath control button vertical surface, a first string control button vertical surface, and a second string control button vertical surface, a first housing vertical surface and a second housing vertical surface wherein one or more of the vertical surfaces are configured to form an aligned adjacent surface at one or more positions along the length of the housing.

27. The insertion device of claim 1, further comprising one or more cavities one wherein the one or more cavities are adapted and configured to house at least a portion of the proximal end of the elongated sheath.

28. The insertion device of claim 1, wherein the distal end of the elongated sheath has an outer diameter of about 3mm to 5mm.

29. The insertion device of claim 1, wherein the distal end of the elongated sheath has an outer diameter equal to or less than 80%, 50%, 30% of the outer diameter of the proximal end of the elongated sheath.

30. The insertion device of claim 1, wherein the distal end of the elongated sheath has an outer diameter which is less than the maximum cross-sectional dimension of an IUD positionable within the lumen of the elongated sheath.

31. The insertion device of claim 1, wherein the distal end of the elongated sheath further comprises one or more slits or flaps at the forward end of the sheath.

32. The insertion device of claim 1, further comprising one or more feedback mechanisms selected from the group comprising audible, visible, and tactile.

33. A kit comprising:

an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end; an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath; a proximally positioned user interface, wherein the proximally positioned user interface further comprises one or more elongated guides formed at least partially therein and along at least a portion of a length thereof; and a moveable sheath slider in communication with the elongated sheath wherein the moveable sheath slider is adaptable and configurable to securely move within the elongated guide and further wherein the moveable sheath slider controls axial movement of the elongated sheath; and

an intrauterine device positionable within the distal lumen of the elongated sheath.

34. A kit comprising:

an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end, an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath, a proximally positioned user interface, and an actuatable sheath control button associated with the proximally positioned user interface in communication with the elongated sheath wherein the actuatable sheath slider is adaptable and configurable to controls axial movement of the elongated sheath, wherein the elongated sheath extends outward from the housing,

and wherein the sheath control button causes the sheath to proximally retract when the sheath control button is actuated, and

an intrauterine device positionable within the distal lumen of the elongated sheath.

35. A kit comprising

an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end, wherein the distal end of the elongated sheath forms an atraumatic tip selected from the group comprising a rounded tip and a tapered tip, an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath, and a proximally positioned user interface; and

an intrauterine device positionable within the distal lumen of the elongated sheath.

36. An insertion device comprising:

an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end;

an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath;

a proximally positioned user interface, wherein the proximally positioned user interface further comprises one or more elongated guides formed at least partially therein and along at least a portion of a length thereof; and

a moveable sheath slider in communication with the elongated sheath wherein the moveable sheath slider is adaptable and configurable to securely move within the elongated guide and further wherein the moveable sheath slider controls axial movement of the elongated sheath.

37. The insertion device of claim **36**, wherein the elongated guide further comprises one or more motion control features along the length of the elongated guide.

38. The insertion device of claim **37**, wherein the one or more motion control features are selected from the group comprising a hard motion control feature, a soft motion control feature.

39. The insertion device of claim **37**, wherein the one or more motion control features comprises at least one force-limiting feature configurable to limit an amount of force applied to the moveable sheath slider.

40. The insertion device of claim **38**, wherein the one or more motion control features are selected from the group comprising detents, notches, grooves, protrusions, tabs, ridges, flanges, flaps, gates, flexible members, elongated guide contours, and elongated guide curved surface.

41. The insertion device of claim **36**, wherein the elongated guide has a length, a width and a depth, and further wherein the elongated guide width is at least one of a variable length along and a staged width selected from two or more of a first width and a second width.

42. The insertion device of claim **36**, wherein the elongated guide has an in-plane profile selected from rectangular, s-shaped, c-shaped, u-shaped, w-shaped, circular, semi-circular, and oval.

43. The insertion device of claim **37**, wherein the sheath slider comprises one or more surface profiles adapted and configured to mechanically complement the one or more motion control features.

44. The insertion device of claim **43**, wherein the one or more surface profiles of the sheath slider are selected from the group comprising one or more of each of non-planar surfaces, curved surfaces, and angled surfaces.

45. The insertion device of claim **36**, wherein the housing and the sheath slider further comprises one or more alignment surfaces, wherein the one or more alignment surfaces of the housing is adapted and configured to mechanically complement the one or more alignment surfaces of the sheath.

46. The insertion device of claim **45**, wherein a first sheath slider alignment surface aligns with a first housing alignment surface at a first position along the length of the elongated guide.

47. The insertion device of claim **45**, wherein the one or more sheath slider alignment surfaces and the one or more housing alignment surfaces are selected from the group comprising a curved surface, an angled surface, a tilted surface and a dimensional surface.

48. An insertion device comprising:

an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end;

an elongated inner member having a proximal end and a distal end disposable within at least a portion of the lumen of the elongated sheath;

a proximally positioned user interface; and

an actuatable sheath control button associated with the proximally positioned user interface in communication with the elongated sheath wherein the actuatable sheath control button is adaptable and configurable to controls axial movement of the elongated sheath wherein the elongated sheath extends distally from the housing, and wherein the sheath control button causes the sheath to proximally retract when the sheath control button is actuated.

49. A method of using an insertion device comprising:

advancing an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end; an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath; a proximally positioned user interface, wherein the proximally positioned user interface further comprises one or more elongated guides formed at least partially therein and along at least a portion of a length thereof; and a moveable sheath slider in communication with the elongated sheath wherein the moveable sheath slider is adaptable and configurable to securely move within the elongated guide and further wherein the moveable sheath slider controls axial movement of the elongated sheath;

actuating the sheath slider;

at least one of moving the elongated sheath proximally and advancing the IUD distally;

automatically or semi-automatically increasing a radial diameter of the IUD; and

releasing the IUD from the insertion device.

50. A method of using an insertion device comprising:

advancing an insertion device having an elongated sheath having a proximal end and a distal end and a lumen extending between the proximal end and the distal end, an elongated inner member having a proximal end and a distal end disposable within the lumen of the elongated sheath, a proximally positioned user interface, and an actuatable sheath control button associated with the proximally positioned user interface in communication with the elongated sheath wherein the actuatable sheath slider is adaptable and configurable to controls axial movement of the elongated sheath, wherein the elongated sheath extends outward from the housing, and wherein the sheath control button causes the sheath to proximally retract when the sheath control button is actuated;

actuating the sheath control button;

at least one of moving the elongated sheath proximally and advancing the IUD distally;

automatically or semi-automatically increasing a radial diameter of the IUD; and

releasing the IUD from the insertion device.