CLAIMS

1. A system for use with a subject, comprising:

a catheter device, comprising:

a tube that has:

a distal opening that is configured to be advanced into the subject, and

a proximal end that defines a proximal opening, and

an extracorporeal unit that is coupled to the proximal end of the tube, defines a deployment position, and comprises a track that leads to the deployment position;

a series of tissue anchors; and

a series of cartridges, each of the cartridges:

holding a respective tissue anchor of the series of tissue anchors,

being coupled to the extracorporeal unit at a respective initial position of a series of initial positions,

while remaining coupled to the extracorporeal unit, being moveable along the track from the respective initial position to the deployment position such that, in the deployment position, the cartridge holds the respective tissue anchor opposite the proximal opening, and

being subsequently removable from the deployment position such that the deployment position becomes vacant for a successive cartridge of the series.

2. The system according to claim 1, wherein:

the catheter device further comprises a port at the proximal opening of the tube, the port comprising a membrane, and

the membrane is shaped to define a first aperture through the membrane, a second aperture through the membrane, and a closed slit connecting the first aperture with the second aperture.

3. The system according to claim 2, wherein the first aperture is wider in diameter than the second aperture.

4. The system according to any one of claims 1-3, further comprising an anchor driver that, for each of the anchors, is configured to be coupled to the anchor while the anchor is held opposite the proximal opening by the respective cartridge in the deployment position, and to advance the anchor distally out of the respective cartridge, through the proximal opening, and through the tube toward the distal opening.

5. The system according to claim 4, wherein the anchor driver is configured to, for each of the anchors, advance the anchor distally out of the respective cartridge, through the proximal opening, and through the tube toward the distal opening while the respective cartridge remains in the deployment position.

6. The system according to claim 5, wherein, for each of the cartridges, the cartridge is configured such that, while (i) the cartridge is at the deployment position, and (ii) the anchor driver is extended distally beyond the cartridge and through the tube toward the distal opening, the cartridge is removable from the deployment position.

7. The system according to claim 5, wherein, for each of the cartridges, the cartridge is configured such that, while (i) the cartridge is at the deployment position, and (ii) the anchor driver is extended distally beyond the cartridge and through the tube toward the distal opening, the anchor driver inhibits removal of the cartridge from the deployment position.

8. The system according to any one of claims 1-7, wherein:

each of the tissue anchors comprises a tissue-engaging element, and a head that defines an eyelet, and

the system further comprises a tether:

threaded through the eyelet of each of the tissue anchors,

having a proximal portion that includes a proximal end of the tether, and

having a distal portion that includes a distal end of the tether, the distal end of the tether being advanceable distally through the tube into the subject while the proximal end of the tether remains outside of the subject.

9. The system according to claim 8, wherein an anchor driver, for each of the anchors, is configured to advance the anchor distally out of the respective cartridge, through the proximal opening, and through the tube toward the distal opening, while the eyelet of the anchor remains threaded on the tether.

10. The system according to claim 9, wherein:

the catheter device further comprises a port at the proximal opening of the tube, the port comprising a membrane,

the membrane is shaped to define a first aperture through the membrane, a second aperture through the membrane, and a closed slit connecting the first aperture with the second aperture, and

the port is arranged such that, for each of the anchors, the anchor driver is configured to advance the anchor distally out of the respective cartridge and through the membrane with the tissue-engaging element passing through the first aperture and the tether extending through the second aperture.

11. The system according to claim 10, wherein the port is arranged such that, for each of the anchors, the anchor driver is configured to advance the anchor distally out of the respective cartridge and through the membrane with the tissue-engaging element passing through the first aperture and the tether extending through the second aperture.

12. The system according to claim 11, wherein the port is arranged such that, for each of the anchors, as the anchor driver advances the anchor distally out of the respective cartridge and through the membrane, the first aperture transiently widens as the tissue-engaging element of the anchor passes through the first aperture.

13. The system according to claim 12, wherein the port is arranged such that, for each of the anchors, after the anchor driver advances the anchor distally out of the respective cartridge and through the membrane, the first aperture seals around the anchor driver.

14. The system according to claim 11, wherein the port is arranged such that, for each of the anchors, as the anchor driver advances the anchor distally out of the respective cartridge and through the membrane, the second aperture transiently widens as the eyelet of the anchor passes through the second aperture.

15. The system according to claim 11, wherein the port is arranged such that, for each of the anchors, as the anchor driver advances the anchor distally out of the respective cartridge and through the membrane, the slit transiently opens as the anchor passes through the membrane.

16. The system according to claim 9, wherein:

the catheter device further comprises a port at the proximal opening of the tube, the port comprising a membrane,

the membrane is shaped to define a first aperture through the membrane, a second aperture through the membrane, and a closed slit connecting the first aperture with the second aperture, and

the port is arranged such that:

the membrane is oriented substantially transversely to the proximal end of the tube, and

for each of the cartridges, while the cartridge is in the deployment position, the tissue-engaging element of the respective tissue anchor is aligned with the first aperture, thereby defining an anchor-advancement axis from the respective tissue anchor, through the first aperture, and through the tube.

17. The system according to claim 16, wherein the port is arranged such that, upon the distal end of the tether being advanced distally through the tube into the subject while the proximal end of the tether remains outside of the subject, the tether extends through the second aperture.

18. The system according to claim 8, wherein:

the catheter device further comprises:

a spring; and

a spool, coupled to the spring such that rotation of the spool in a first direction applies stress to the spring, and

the proximal portion of the tether is wound around the spool such that advancing of the distal portion of the tether distally through the tube rotates the spool in the first direction.

19. The system according to any one of claims 1-18, wherein each of the cartridges is configured to lock to the extracorporeal unit upon arriving at the deployment position.

20. The system according to any one of claims 1-18, wherein each of the cartridges is shaped to be grasped by hand by a human operator and is configured to be moved along the track by hand by the operator.

21. The system according to any one of claims 1-20, wherein each of the cartridges is removable from the deployment position by being removed from the extracorporeal unit.

22. The system according to any one of claims 1-21, wherein each of the cartridges comprises a displaceable barrier that obstructs the respective anchor from being advanced distally out of the cartridge.

23. The system according to claim 22, wherein each of the cartridges comprises a displacement mechanism that, upon actuation of the displacement mechanism, displaces the barrier such that the barrier ceases to obstruct the respective anchor from being advanced distally out of the cartridge.

24. The system according to claim 23, wherein the displacement mechanism is configured such that actuation of the displacement mechanism displaces the barrier by linear translation of the barrier.

~~25. The system according to claim 23, wherein the displacement mechanism is configured such that actuation of the displacement mechanism displaces the barrier by deflection of the barrier.~~

~~26. The system according to claim 23, wherein the displacement mechanism is spring-loaded.~~

~~27. The system according to claim 23, wherein the displacement mechanism is configured to be actuated by a force applied to the respective anchor.~~

~~28. The system according to claim 27, wherein the displacement mechanism is configured to be actuated by an anchor driver pulling the respective anchor proximally.~~

~~29. The system according to claim 28, wherein, for each of the cartridges:~~

~~the cartridge comprises:~~

~~a first piece that comprises the barrier, and~~

~~a second piece that holds the respective anchor;~~

~~the displacement mechanism is constrained by a detent of the cartridge, and~~

~~the displacement mechanism is configured to be actuated by the anchor driver pulling the respective anchor proximally with sufficient force that the respective anchor pulls the second piece proximally with respect to the first piece such that the detent ceases to constrain the displacement mechanism.~~

~~30. The system according to claim 29, wherein the displacement mechanism is defined by the first piece.~~

~~31. The system according to claim 29, wherein the first piece defines the detent.~~

~~32. The system according to claim 31, wherein the detent constrains the displacement mechanism by contacting the respective anchor.~~

~~33. The system according to claim 32, wherein the respective anchor comprises a helical tissue-engaging element, and the detent constrains the displacement mechanism by being disposed within the helical tissue-engaging element of the respective anchor.~~

~~34. The system according to claim 29, wherein the second piece defines the detent.~~

~~35. The system according to claim 34, wherein the detent constrains the displacement mechanism by contacting the engagement mechanism.~~

~~36. The system according to claim 29, wherein the cartridge is coupled to the extracorporeal unit via coupling between the first piece and the extracorporeal unit.~~

~~37. The system according to claim 29, wherein the cartridge is coupled to the extracorporeal unit via coupling between the second piece and the extracorporeal unit.~~

~~38. The system according to claim 29, wherein each of the cartridges is configured such that the anchor driver pulling the respective anchor proximally with sufficient force that the respective anchor pulls the second piece proximally with respect to the first piece reconfigures the cartridge into a removable state that facilitates removal of the cartridge from the deployment position.~~

~~39. The system according to claim 29, wherein the second piece is mounted inside the first piece, and the first piece is shaped to be grasped by hand by a human operator.~~

~~40~~1. A system for use with a subject, comprising:

a catheter device, comprising:

a tube that has a proximal opening, and

an extracorporeal controller that comprises a track that leads to a deployment position;

a first cartridge holding a first tissue anchor, the first cartridge shaped to be grasped by hand by a human operator and being coupled to the controller and, while remaining coupled to the controller, being moveable along the track by hand by the human operator from a first initial position to the deployment position such that the first cartridge holds the first tissue anchor opposite the proximal opening; and

a second cartridge holding a second tissue anchor, the second cartridge shaped to be grasped by hand by the human operator and being coupled to the controller and, while remaining coupled to the controller, being moveable along the track by hand by the human operator from a second initial position to the deployment position such that the second cartridge holds the second tissue anchor opposite the proximal opening.

~~41~~2. The system according to claim ~~40~~1, wherein the first tissue anchor comprises a first tissue-engaging element and a first head comprising a first eyelet, and the second tissue anchor comprises a second tissue-engaging element and a second head comprising a second eyelet.

~~42~~3. The system according to claim ~~41~~2, further comprising a tether threaded through the first eyelet and the second eyelet, the tether having a proximal portion that includes a proximal

end of the tether and having a distal portion that includes a distal end of the tether, the distal end of the tether being advanceable distally through the tube into the subject while the proximal end of the tether remains outside of the subject.

~~43~~4. The system according to claim ~~42~~3, wherein an anchor driver is configured to advance the first anchor distally out of the first cartridge, through the proximal opening, and through the tube, while the first eyelet of the first anchor remains threaded on the tether, and wherein the anchor driver is configured to advance the second anchor distally out of the second cartridge, through the proximal opening, and through the tube, while the second eyelet of the second anchor remains threaded on the tether.

~~44~~5. The system according to any one of claims ~~42~~3-4~~3~~, wherein the catheter device further comprises a tensioning device configured to apply tension to the tether.

~~45~~6. The system according to claim ~~44~~5, wherein the tensioning device comprises a spring and a spool, the spool coupled to the spring such that rotation of the spool in a first direction applies stress to the spring, and wherein the proximal portion of the tether is wound around the spool such that advancing of the distal portion of the tether distally through the tube rotates the spool in the first direction.

~~46~~7. The system according to any one of claims ~~40~~1-~~45~~6, wherein each of the first cartridge and the second cartridge is configured to lock to the controller upon arriving at the deployment position.

~~47~~8. The system according to any one of claims ~~40~~1-~~46~~7, further comprising an anchor driver that is couplable to the first anchor while the first anchor is held by the first cartridge opposite the proximal opening and is configured to advance the first anchor distally out of the first cartridge through the proximal opening and through the tube, and that is couplable to the second anchor while the second anchor is held by the second cartridge opposite the proximal opening and is configured to advance the second anchor distally out of the second cartridge through the proximal opening and through the tube.

~~48~~9. The system according to any one of claims ~~40~~1-~~47~~8, wherein each of the first cartridge and the second cartridge is removable from the deployment position by being removed from the controller.

~~49~~10. The system according to any one of claims ~~40~~1-~~48~~9, wherein the first cartridge comprises a first displaceable barrier that inhibits the first anchor from being advanced distally

out of the first cartridge, and wherein the second cartridge comprises a second displaceable barrier that inhibits the second anchor from being advanced distally out of the second cartridge.

~~50~~11. The system according to claim ~~49~~10, wherein the first cartridge comprises a first displacement mechanism that, upon actuation of the first displacement mechanism, displaces the first displaceable barrier such that the first displaceable barrier ceases to obstruct the first anchor from being advanced distally out of the first cartridge, and wherein the second cartridge comprises a second displacement mechanism that, upon actuation of the second displacement mechanism, displaces the second displaceable barrier such that the second displaceable barrier ceases to obstruct the second anchor from being advanced distally out of the second cartridge.

~~51~~12. The system according to claim ~~50~~11, wherein the first displacement mechanism and the second displacement mechanism are each spring-loaded.

~~52~~13. The system according to claim ~~50~~11, wherein the first displacement mechanism is configured to be actuated by a force applied to the first anchor, and wherein the second displacement mechanism is configured to be actuated by a force applied to the second anchor.

~~53~~14. The system according to claim ~~52~~13, wherein the first displacement mechanism is configured to be actuated by an anchor driver pulling the first anchor proximally, and wherein the second displacement mechanism is configured to be actuated by the anchor driver pulling the second anchor proximally.

~~54~~15. The system according to claim ~~53~~14, wherein the first cartridge comprises a first piece that comprises the barrier, and a second piece that couples the first cartridge to the extracorporeal unit and holds the first anchor.

~~55~~16. The system according to claim ~~54~~15, wherein the second piece defines a detent that constrains the first displacement mechanism, and wherein the first displacement mechanism is configured to be actuated by the anchor driver pulling the first anchor proximally with sufficient force that the first anchor pulls the second piece proximally with respect to the first piece such that the detent ceases to constrain the first displacement mechanism.

~~56~~17. The system according to claim ~~55~~16, wherein the second piece slidably couples the first cartridge to the track.

~~57~~18. The system according to claim ~~56~~17, wherein the first cartridge is configured such that the anchor driver pulling the first anchor proximally with sufficient force that the first anchor pulls the second piece proximally with respect to the first piece reconfigures the first cartridge

into a removable state that facilitates removal of the first cartridge from the deployment position.

~~58~~19. The system according to claim ~~54~~15, wherein the second piece is mounted inside the first piece, and the first piece is shaped to be grasped by hand by ~~a~~ the human operator.

~~59~~20. The system according to any one of claims ~~40~~1-~~58~~19, further comprising a third cartridge holding a third tissue anchor and being coupled to the controller and, while remaining coupled to the controller, being moveable along the track from a third initial position to the deployment position such that the third cartridge holds the third tissue anchor opposite the proximal opening.

~~60. An apparatus, comprising:~~

~~a catheter system, comprising an extracorporeal controller at a proximal portion of the catheter system, and a transluminally advanceable catheter extending distally, along a longitudinal catheter axis, from the controller to a distal opening of the catheter, the catheter comprising:~~

~~a channel, comprising a generally tubular wall that defines a lumen along the catheter axis, the tubular wall having a lateral slit extending along at least part of the channel at a distal portion thereof; and~~

~~a helical thread, overlapping the channel in part, and operably coupled to the controller such that, via operation of the controller, the thread is rotatable about the catheter axis with respect to the channel, the catheter having an anchor storage zone in which the thread is longitudinally at least partly coincident with the slit, and;~~

~~at least one tissue anchor, disposed within the anchor storage zone, and comprising:~~

~~a tissue engaging portion, disposed within the lumen of the channel and defining a tissue anchor axis;~~

~~an anchor head, coupled to the tissue engaging portion, and defining a driver interface; and~~

~~a protrusion, coupled to the tissue engaging portion via the anchor head, and protruding laterally with respect to the tissue engaging portion so as to extend through the slit and engage the thread, such that:~~

~~while the thread is stationary with respect to the channel, the tissue anchor is secured within the anchor storage zone, and~~

rotation of the thread about the tissue anchor axis with respect to the channel advances the tissue anchor distally until the protrusion exits a distal exit of the thread.

61. The apparatus according to claim 60, wherein the slit defines a linear slit disposed in parallel with the catheter axis.

62. The apparatus according to any one of claims 60-61, wherein the protrusion is rotatably coupled to the tissue-engaging portion via the anchor head.

63. The apparatus according to any one of claims 60-62, further comprising an inner tube surrounding a proximal portion of the channel, and wherein the thread extends from a distal end of the inner tube and over the distal end portion of the channel and defines a tubular structure.

64. The apparatus according to any one of claims 60-63, wherein:

the at least one tissue anchor comprises at least first and second tissue anchors disposed sequentially within the anchor storage zone, each of the first and second tissue anchors comprising a respective protrusion,

while the thread is stationary, the first tissue anchor is disposed in a first location distally to the second tissue anchor that is disposed in a second location, and

rotation of the thread about the catheter axis with respect to the channel (a) advances the first tissue anchor distally until the protrusion of the first tissue anchor exits a distal exit of the thread and the first tissue anchor is moved distally away from the first location, and (b) advances the second tissue anchor distally away from the second location until the second tissue anchor is moved distally into the first location.

65. The apparatus according to claim 64, further comprising a spring disposed within the catheter proximally to the second tissue anchor, the spring being configured to facilitate distal movement of the first and second tissue anchors.

66. The apparatus according to any one of claims 60-65, further comprising an anchor driver that comprises a driver head coupled to a flexible shaft, wherein:

the driver head is dimensioned to be axially slid within the lumen of the channel, and is actuatable to reversibly engage the driver interface within the anchor-storage zone, and

the anchor driver is configured to, while the driver head is engaged with the driver interface:

advance the anchor distally away from the anchor-storage zone, toward the distal opening of the catheter, and

drive the tissue-engaging portion along the tissue anchor axis into the tissue.

67. The apparatus according to claim 66, wherein the catheter system is arranged such that the anchor driver is configured to advance the anchor distally during the rotation of the thread about the catheter axis with respect to the channel.

68. The apparatus according to any one of claims 60-67, further comprising an outer tube disposed around the channel and thread in a manner in which the thread is disposed between the outer tube and the channel.

69. The apparatus according to claim 68, wherein the thread is moveable and rotatable with respect to the outer tube and with respect to the channel.

70. The apparatus according to claim 68, wherein an inner surface of the outer tube defines a helical groove which defines the thread in a manner in which rotation of the outer tube facilitates rotation of the thread.

71. The apparatus according to any one of claims 60-70, wherein:

the tissue anchor defines a tissue anchor axis,

the tissue-engaging element is disposed along the axis and is rotatable about the tissue anchor axis,

the tissue-engaging element is configured to be driven into tissue of a subject along the tissue anchor axis, and

the protrusion extends radially away from the tissue anchor axis.

72. The apparatus according to claim 71, wherein the anchor head is fixedly coupled to the tissue-engaging portion, and wherein the protrusion is rotatably coupled to anchor head.

73. The apparatus according to claim 71, wherein the anchor head is disposed within the lumen.

74. The apparatus according to claim 71, wherein:

the thread defines a plurality of adjacent ribbons arranged helically,

the protrusion rests against a surface defining a depth of a distal one of the plurality of ribbons and in a pitch between the distal one of the plurality of ribbons and an adjacent ribbon proximal to the distal one of the plurality of ribbons, and

during the rotation of the thread about the catheter axis, the protrusion slides along the surface defining the depth of the distal one of the plurality of ribbons.

75. The apparatus according to claim 71, wherein the tissue anchor defines a tissue-anchor lumen along the tissue anchor axis, and wherein the apparatus further comprises an anchor driver that comprises a driver head coupled to a flexible shaft, wherein:

the driver head is dimensioned to be axially slid within the tissue-anchor lumen, and is actuatable to reversibly engage the driver interface within the anchor-storage zone, and

the anchor driver is configured to, while the driver head is engaged with the driver interface:

advance the anchor distally away from the anchor-storage zone, toward the distal opening of the catheter, and

drive the tissue-engaging portion along the anchor axis into the tissue.

76. The apparatus according to claim 75, wherein the catheter system is arranged such that the anchor driver is configured to advance the anchor distally during the rotation of the thread about the catheter axis with respect to the channel.

77. The apparatus according to any one of claims 60-76, wherein the protrusion is shaped so as to define an eyelet defining an aperture.

78. The apparatus according to claim 77, further comprising a wire slidably coupled to the at least one tissue anchor and wherein the wire is threaded through the aperture of the eyelet of the protrusion.

79. An apparatus, comprising:

at least one tissue anchor; and

a catheter system, comprising an extracorporeal controller at a proximal portion of the catheter system, and a transluminally advanceable catheter extending distally, along a longitudinal catheter axis, from the controller to a distal opening of the catheter, the catheter comprising:

a channel, comprising a generally tubular wall that defines a lumen along the catheter axis, the anchor being disposed in the lumen; and

a dispenser, distal to the anchor, and comprising a proximal detent and a distal detent, and operably coupled to the controller so as to be transitionable, via operation of the controller, between:

a receiving state, in which (i) the proximal detent is collapsed away from the catheter axis, permitting the anchor to move distally past the proximal detent and into the dispenser, and (ii) the distal detent extends into the lumen,

~~obstructing the anchor from moving distally past the distal detent and out of the dispenser;~~

~~a closed state, in which (a) the proximal detent extends into the lumen, obstructing the anchor from returning proximally past the proximal detent and out of the dispenser, and (b) the distal detent extends into the lumen, obstructing the anchor from moving distally past the distal detent and out of the dispenser; and~~

~~a dispensing state, in which (1) the proximal detent extends into the lumen, obstructing the anchor from returning proximally past the proximal detent and out of the dispenser, and (2) the distal detent is collapsed away from the catheter axis, permitting the anchor to move distally past the distal detent and out of the dispenser.~~

~~80. The apparatus according to claim 79, further comprising a tubular structure surrounding at least a portion of the channel, the tubular structure being coupled to the dispenser in a manner in which movement of the tubular structure longitudinally distally and proximally along the channel facilitates collapsing of the proximal and distal detents and extending of the proximal and distal detents into the lumen of the channel.~~

~~81. The apparatus according to claim 80, wherein the tubular wall of the channel is shaped so as to define a lateral window out of the lumen, the window having a proximal edge and a distal edge, and wherein:~~

~~the tubular structure surrounding the at least the portion of the channel at the lateral window,~~

~~movement of the tubular structure proximally with respect to the lateral window facilitates collapsing of the proximal detent against the proximal edge of the window such that the proximal detent moves away from the catheter axis, and~~

~~movement of the tubular structure distally with respect to the lateral window facilitates collapsing of the distal detent against the distal edge of the window such that the distal detent moves away from the catheter axis.~~

~~82. The apparatus according to claim 80, further comprising an outer tube disposed around the tubular structure in a manner in which the tubular structure is disposed between the outer tube and the channel.~~

~~83. The apparatus according to any one of claims 79-82, wherein:~~

the at least one tissue anchor defines a first tissue anchor,

the apparatus further comprises at least one additional tissue anchor, disposed within the lumen proximal to the dispenser,

subsequently to the dispensing state in which the first tissue anchor is moved distally past the distal detent and out of the dispenser:

the dispenser returns to the receiving state wherein the dispenser permits the at least one additional anchor to move distally past the proximal detent, into the dispenser,

the dispenser transitions to the closed state wherein the dispenser obstructs the at least one additional anchor from moving distally past the distal detent and out of the dispenser, and

subsequently, the dispenser transitions to the dispensing state, wherein the dispenser permits the at least one additional tissue anchor to move distally past the distal detent and out of the dispenser.

84. The apparatus according to claim 83, further comprising a spring disposed within the catheter proximally to the at least one additional tissue anchor, the spring being configured to facilitate distal movement of the first tissue anchor and at least one additional tissue anchor.

85. The apparatus according to any one of claims 79-82, wherein the at least one tissue anchor comprises:

a tissue-engaging portion disposed within the lumen of the channel and defining a tissue anchor axis;

an anchor head, coupled to the tissue-engaging portion, and defining a driver interface; and

an eyelet defining an aperture, the eyelet protruding laterally with respect to the tissue-engaging portion.

86. The apparatus according to claim 85, wherein the eyelet is rotatably coupled to the tissue-engaging portion via the anchor head.

87. The apparatus according to claim 85, further comprising a wire slidably coupled to the at least one tissue anchor and wherein the wire is threaded through the aperture of the eyelet.

88. The apparatus according to claim 85, further comprising an anchor driver that comprises a driver head coupled to a flexible shaft, wherein:

the driver head is dimensioned to be axially slid within the lumen, and is actuatable to reversibly engage the driver interface of the at least one tissue anchor, and

the anchor driver is configured to, while the driver head is engaged with the driver interface:

advance the anchor distally toward the distal opening of the catheter, and

drive the tissue-engaging portion along the tissue anchor axis into the tissue.

89. The apparatus according to claim 88, wherein the tissue anchor defines a tissue-anchor lumen along the tissue anchor axis, and wherein:

the driver head of the anchor driver is dimensioned to be axially slid within the tissue-anchor lumen, and is actuatable to reversibly engage the driver interface, and

the flexible shaft of the anchor driver is dimensioned to be axially slid within the tissue-anchor lumen.

90. The apparatus according to claim 85, wherein the tubular wall of the channel is shaped so as to define a lateral slit extending along at least part of the channel at a distal portion thereof.

91. The apparatus according to claim 90, wherein the eyelet protrudes laterally with respect to the tissue-engaging portion so as to extend through the lateral slit.

92. An apparatus, comprising:

at least one tissue anchor; and

a catheter system, comprising an extracorporeal controller at a proximal portion of the catheter system, and a transluminally-advanceable catheter extending distally, along a longitudinal catheter axis, from the controller to a distal opening of the catheter, the catheter comprising:

a channel, comprising a generally tubular wall that defines a lumen along the catheter axis, the anchor being disposed in the lumen, the tubular wall being shaped so as to define at least one detent having a lateral detent slit defining a moveable tab;

a projection coupled to an inner surface of the moveable tab facing the lumen of the channel; and

an overtube slidably disposed around the channel and operably coupled to the controller so as to be transitionable, via operation of the controller, such that the detent is transitionable between:

a closed state, in which (i) the overtube surrounds the moveable tab, (ii) the moveable tab is in line with the tubular wall of the channel, and (iii) the projection extends into the lumen of the channel, obstructing the anchor from moving distally past the projection; and

an opened state, in which (a) the overtube is retracted from the moveable tab, and (b) the moveable tab is displaceable away from the catheter axis to move the projection away from the catheter axis, enabling the anchor to move distally past the projection.

93. The apparatus according to claim 92, wherein the overtube is shaped so as to define a lateral window which is configured to align with the projection during the opened state in a manner which facilitates movement of the projection away from the catheter axis.

94. The apparatus according to any one of claims 92-93, wherein:

the at least one anchor defines a first tissue anchor,

the apparatus further comprises at least one additional tissue anchor, disposed within the lumen proximal to the first tissue anchor,

the at least one detent defining a first detent,

the tubular wall being shaped so as to define at least one additional detent having a lateral additional-detent slit defining an additional-detent moveable tab,

the apparatus further comprises an additional detent projection coupled to an inner surface of the additional-detent moveable tab facing the lumen of the channel, and

subsequently to the opened state of the first detent in which the first tissue anchor is moved distally past the projection of the first detent, the overtube is retractable distally such that the at least one additional detent is transitionable between:

a closed state, in which (i) the overtube surrounds the additional-detent moveable tab, (ii) the additional-detent moveable tab is in line with the tubular wall of the channel, and (iii) the additional detent projection extends into the lumen, obstructing the anchor from moving distally past the additional-detent projection; and

an opened state, in which (i) the overtube is retracted from the additional-detent moveable tab, and (ii) the additional-detent moveable tab is displaceable away from the catheter axis to move the additional-detent-projection away from the catheter axis, enabling the anchor to move distally past the additional-detent projection.

95. The apparatus according to claim 94, wherein:

the first tissue anchor is disposed in a first location with respect to the channel,

the additional tissue anchor is disposed in a second location with respect to the channel proximal to the first location, and

the apparatus further comprises an anchor driver configured to (1) engage the first tissue anchor in the first location during the closed state of the first detent, and (2) engage the additional tissue anchor in the second location during the closed state of the additional detent.

96. The apparatus according to any one of claims 92-95, wherein the at least one tissue anchor comprises:

a tissue-engaging portion disposed within the lumen of the channel, the tissue-engaging portion defining a tissue anchor axis;

an anchor head, coupled to the tissue-engaging portion, and defining a driver interface; and

an eyelet defining an aperture, the eyelet protruding laterally with respect to the tissue-engaging portion.

97. The apparatus according to claim 96, wherein the eyelet is rotatably coupled to the tissue-engaging portion via the anchor head.

98. The apparatus according to claim 96, wherein the tissue-engaging portion is shaped so as to define a helical tissue-engaging portion, and wherein the projection of the detent is configured to be disposed between adjacent subcomponents of the helical tissue-engaging portion in the closed state of the detent.

99. The apparatus according to claim 96, further comprising a wire slidably coupled to the at least one tissue anchor and wherein the wire is threaded through the aperture of the eyelet.

100. The apparatus according to claim 96, further comprising an anchor driver that comprises a driver head coupled to a flexible shaft, wherein:

the driver head is dimensioned to be axially slid within the lumen, and is actuatable to reversibly engage the driver interface of the at least one tissue anchor, and

the anchor driver is configured to, while the driver head is engaged with the driver interface:

advance the anchor distally toward the distal opening of the catheter, and

drive the tissue-engaging portion along the tissue anchor axis into the tissue.

101. The apparatus according to claim 100, wherein the tissue anchor defines a tissue-anchor-lumen along the tissue anchor axis, and wherein:

the driver head of the anchor driver is dimensioned to be axially slid within the tissue-anchor-lumen, and is actuatable to reversibly engage the driver interface, and

the flexible shaft of the anchor driver is dimensioned to be axially slid within the tissue-anchor lumen.

102. The apparatus according to claim 96, wherein the tubular wall of the channel is shaped so as to define a lateral slit extending along at least part of the channel at a distal portion thereof.

103. The apparatus according to claim 102, wherein the eyelet protrudes laterally with respect to the tissue-engaging portion so as to extend through the lateral slit.

104. An apparatus, comprising:

at least first and second tissue anchors; and

a catheter system, comprising:

a transluminally-advanceable catheter extending distally, along a longitudinal catheter axis, from the controller to a distal opening of the catheter, the catheter comprising a channel, comprising a generally tubular wall that defines a lumen along the catheter axis for passage therethrough of the first and second tissue anchors; and

an extracorporeal controller at a proximal portion of the catheter system, the extracorporeal controller comprising a handle, the handle:

shaped so as to define an anchor-driver sublumen having an anchor-driver sublumen axis in alignment with the lumen of the channel of the transluminally-advanceable catheter and along the catheter axis,

shaped so as to define an anchor-storage sublumen offset with respect to the lumen of the channel of the transluminally-advanceable catheter and with respect to the anchor-driver sublumen, the anchor-storage sublumen defining an anchor-storage zone housing the first and second tissue anchors, and

comprising a revolving stopper at a distal end of the handle, the revolving stopper shaped so as to define a receiving lumen to receive one of the first and second tissue anchors, the revolving stopper being revolvable about the catheter axis in a manner in which:

in a receiving state of the revolving stopper, the receiving lumen of the revolving stopper is brought into alignment with the anchor-storage sublumen in order to receive the one of the first and second tissue anchors from the anchor-storage zone, and

in a loaded state of the revolving stopper the receiving lumen of the revolving stopper is brought into alignment with the anchor-driver sublumen such that the one of the first and second tissue anchors is

passable through the lumen of the channel of the transluminally-advanceable catheter.

105. The apparatus according to claim 104, wherein the anchor-storage sublumen and the anchor-driver sublumen are parallel.

106. The apparatus according to any one of claims 104-105, further comprising a spring disposed within the anchor-storage sublumen proximally to at least the second tissue anchor, the spring being configured to facilitate distal movement of the first and second tissue anchors.

107. The apparatus according to any one of claims 104-105, wherein the anchor-storage sublumen and the anchor-driver sublumen are in fluid communication.

108. The apparatus according to claim 107, wherein each of the first and second tissue anchor comprises:

a respective tissue-engaging portion defining a tissue-anchor axis;

a respective anchor head, coupled to the tissue-engaging portion, and defining a driver interface; and

a respective eyelet defining an aperture, the respective eyelet protruding laterally with respect to the tissue-engaging portion.

109. The apparatus according to claim 108, wherein each eyelet is rotatably coupled to the respective tissue-engaging portion via the respective anchor head.

110. The apparatus according to claim 108, further comprising a wire slidably coupled to the first and second tissue anchors and wherein the wire is threaded through the apertures of the respective eyelets of the first and second tissue anchors.

111. The apparatus according to claim 110, wherein the wire is disposed between the anchor-driver sublumen and the anchor-storage sublumen.

112. The apparatus according to claim 110, wherein the wire extends within the lumen of the channel of the transluminally-advanceable catheter.

113. The apparatus according to claim 110, wherein each one of the first and second tissue anchors is revolvable by the revolving stopper about the wire.

114. The apparatus according to claim 108, further comprising an anchor driver slidable in part within the anchor-driver sublumen and in part within the lumen of the channel of the transluminally-advanceable catheter, the anchor driver comprising a driver head coupled to a flexible shaft, wherein:

the driver head is dimensioned to be axially slid within the anchor driver sublumen and in part within the lumen of the channel of the transluminally advanceable catheter, and is actuatable to reversibly engage the driver interface of each one of the first and second tissue anchors, and

the anchor driver is configured to, while the driver head is engaged with the driver interface:

advance the tissue anchor distally toward the distal opening of the catheter, and

drive the tissue-engaging portion along the tissue anchor axis into the tissue.

115. The apparatus according to claim 114, wherein the tissue anchor defines a tissue anchor lumen along the tissue anchor axis, and wherein:

the driver head of the anchor driver is dimensioned to be axially slid within the tissue anchor lumen, and is actuatable to reversibly engage the driver interface, and

the flexible shaft of the anchor driver is dimensioned to be axially slid within the tissue anchor lumen.

116. The apparatus according to claim 108, wherein the tubular wall of the channel is shaped so as to define a lateral slit extending along at least part of the channel at a distal portion thereof.

117. The apparatus according to claim 116, wherein each eyelet protrudes laterally with respect to the tissue-engaging portion so as to extend through the lateral slit.

118. An anchor driver for use with a tissue anchor shaped so as to define a driver interface having a proximal rim and a recessed portion surrounded by a wall of the tissue anchor extending distally from the proximal rim, the anchor driver comprising:

a flexible shaft;

a driver head coupled to the flexible shaft, the driver head being shaped so as to define first and second legs having a resting state in which the first and second legs define a first space between each other having a first distance and in which the first and second legs do not contact the wall of the tissue anchor surrounding the recessed portion;

a connecting bar disposed at least in part between the first and second legs; and

first and second expander elements slidable with respect to the flexible shaft and with respect to the first and second legs, the first and second expander elements:

being disposed upstream of the connecting bar in the resting state of the first and second legs of the anchor driver,

being advanceable around the connecting bar and into the first space between the first and second legs to expand the first and second legs such that the first and second legs assume an engaged state in which the first and second legs define a second space between each other having a second distance greater than the first distance and in which the first and second legs contact and engage the wall of the tissue anchor surrounding the recessed portion, and

having respective distal surfaces at each end of the first and second expander elements which, in the engaged state of the first and second legs, push against the proximal rim of the tissue anchor to facilitate pushing of the tissue anchor in the engaged state of the first and second legs.

119. The anchor driver according to claim 118, further comprising an advancing element slidably coupled to the flexible shaft, the advancing element being coupled to the first and second expander elements and slidable with respect to the flexible shaft to push the first and second expander elements distally.

120. The anchor driver according to any one of claims 118-119, wherein the first and second expander elements comprise first and second wires.

121. The anchor driver according to any one of claims 118-120, wherein the first and second expander elements expand along a plane that is perpendicular with respect to a plane along which the first and second legs expand.

122. The anchor driver according to any one of claims 118-121, wherein the anchor driver is dimensioned to be axially slid through a lumen defined by the tissue anchor in the resting state of the first and second legs and to selectively and reversibly engage the wall of the tissue anchor surrounding the recessed portion.

123. The anchor driver according to claim 122, wherein the first and second expander elements are dimensioned to (a) assume a collapsed state during the resting state of the first and second legs, (b) expand around the connecting bar to transition the of the first and second legs into the engaged state of the first and second legs, and (c) subsequently be retractable to return the first and second expander elements to the collapsed state to disengage the anchor driver from the tissue anchor.

124. An anchor driver for use with a tissue anchor shaped so as to define a driver interface having a proximal rim and a recessed portion surrounded by a wall of the tissue anchor extending distally from the proximal rim, the anchor driver comprising:

a flexible advancing element;

a driver head coupled to the flexible advancing element, the driver head being shaped so as to define first and second legs having a resting state in which the first and second legs define a first space between each other having a first distance and in which the first and second legs do not contact the wall of the tissue anchor surrounding the recessed portion; and

an expander element slidable with respect to the flexible advancing element and between the first and second legs, the first and second expander elements being:

disposed at a distal surface of the first and second legs in the resting state of the first and second legs of the anchor driver, and

advanceable proximally and into the first space between the first and second legs to expand the first and second legs such that the first and second legs assume an engaged state in which the first and second legs define a second space between each other having a second distance greater than the first distance and in which the first and second legs contact and engage the wall of the tissue anchor surrounding the recessed portion.

125. The anchor driver according to claim 124, wherein, in the resting state, the first and second legs collectively assume a circular profile, and in the engaged state, the first and second legs collectively assume an elliptical profile.

126. The anchor driver according to any one of claims 124-125, wherein the expander element comprises a circular disc having a diameter that is larger than the first space between the first and second legs in the resting state such that the first and second legs expand to assume the engaged state when the expander element is positioned between the first and second legs.

127. The anchor driver according to any one of claims 124-125, wherein the expander element comprises an elliptical disc having a major axis diameter that is larger than the first space between the first and second legs in the resting state such that the first and second legs expand to assume the engaged state when the expander element is positioned between the first and second legs.

128. The anchor driver according to any one of claims 124-127, further comprising a displacing element slidably coupled to the advancing element, the displacing element being coupled to the expander element and slidable with respect to the advancing element to pull the expander element proximally to into the first space between the first and second legs.

~~129. The anchor driver according to any one of claims 124-128, wherein the anchor driver is dimensioned to be axially slid through a lumen defined by the tissue anchor and to selectively and reversibly engage the wall of the tissue anchor surrounding the recessed portion.~~

~~130. The anchor driver according to claim 129, wherein the expander element is pushable distally to return the first and second legs to the to the resting state to disengage the anchor driver from the tissue anchor.~~

~~131. An anchor driver for use with a tissue anchor shaped so as to define a driver interface having a proximal rim and a recessed portion surrounded by a wall of the tissue anchor extending distally from the proximal rim, the anchor driver comprising:~~

~~a flexible tube;~~

~~a driver head coupled to the flexible tube, the driver head being shaped so as to a deflectable protrusion having a resting state in which the protrusion assumes a collapsed state toward a central axis defined by the flexible tube and does not contact the tissue anchor;~~

~~a shaft disposed within a lumen of the flexible tube and engageable with the deflectable protrusion such that when the shaft slides alongside the deflectable protrusion, the shaft deflects the deflectable protrusion from the collapsed state, away from the central axis, and into an engaged state of the deflectable protrusion in which the deflectable protrusion engages with the tissue anchor; and~~

~~first and second expander elements coupled to an outer surface of the flexible tube and expandable proximally to the tissue anchor, the first and second expanded elements having respective distal surfaces at each end of the first and second expander elements which, in the engaged state of the deflectable protrusion, push against the proximal rim of the tissue anchor to facilitate pushing of the tissue anchor.~~

~~132. The anchor driver according to claim 131, wherein the anchor driver is dimensioned to be axially slid through a lumen defined by the tissue anchor and to selectively and reversibly engage the tissue anchor responsively to movement of the shaft.~~

~~133. The anchor driver according to claim 132, wherein the first and second expander elements are collapsible while being pulled through a lumen of the tissue anchor, and expandable once exposed from the lumen.~~

~~134. The anchor driver according to claim 132, wherein the shaft is retractable away from the deflectable protrusion to facilitate deflecting of the deflectable protrusion from the engaged~~

~~state, toward the central axis and into the collapsed state to disengage the anchor driver from the tissue anchor.~~

~~135. A system for use with a subject, comprising:~~

~~a catheter device, comprising a distal member configured to be advanced into the subject, and an extracorporeal unit that comprises a housing and a tensioner;~~

~~a tether, having a proximal portion that includes a proximal end of the tether, the tether extending from the proximal portion, distally through the catheter device to a distal portion of the tether, the distal portion being disposed distally from the tensioner and including a distal end of the tether, and the tensioner being configured to pull proximally on the tether;~~

~~multiple tissue anchors, each of the anchors comprising:~~

~~a tissue-engaging element, and~~

~~a head that defines an eyelet that is threaded onto the tether such that the multiple tissue anchors are distributed in a series along the tether proximally from the tensioner; and~~

~~an anchor driver that, for each of the anchors consecutively, is configured be reversibly coupled to the anchor and to advance the anchor along the tether, distally past the tensioner.~~

~~136. The system according to claim 135, wherein the tensioner comprises a spring that is coupled to the housing, and is reversibly lockable to the tether such that, while the spring is under stress and is locked to the tether, the spring causes the tensioner to pull proximally on the tether.~~

~~137. The system according to claim 136, wherein the spring is a compression spring, is configured to be stressed by compression, and is configured to pull proximally on the tether by extending.~~

~~138. The system according to claim 136, wherein the tensioner further comprises a clamp, coupled to the spring, and reversibly transitionable between an unclamped state and a clamped state, the tether extending distally through the catheter device such that the tether extends through the clamp in a manner in which, when the clamp is in the clamped state, the spring is locked to the tether.~~

~~139. The system according to claim 138, wherein the tensioner comprises an actuator, actuation of the actuator transitioning the clamp between the unclamped state and the clamped state.~~

~~140. The system according to claim 139, wherein the actuator comprises a ring that circumscribes the clamp, rotation of the ring transitioning the clamp between the unclamped state and the clamped state.~~

~~141. The system according to claim 140, wherein the clamp is biased toward assuming the unclamped state.~~

~~142. The system according to claim 140, wherein the clamp and the ring collectively function as a chuck.~~

~~143. The system according to claim 140, wherein the ring has an inner surface, and the clamp has an outer surface, and wherein at least one surface selected from the group consisting of the inner surface of the ring and the outer surface of the clamp is tapered such that axial movement of the ring with respect to the clamp squeezes the clamp toward the clamped state.~~

~~144. The system according to claim 140, wherein the ring has an inner screw thread, and the clamp has an outer screw thread, such that rotation of the ring screws the ring over the clamp.~~

~~145. The system according to claim 138, wherein:~~

~~the anchor driver comprises a shaft, and a driver head at a distal end of the shaft, the driver head being reversibly couplable to each of the tissue anchors, and~~

~~the tether extends through the tensioner, thereby defining a tether axis, and wherein the catheter device is shaped to provide a non-clamping zone laterally from the tether axis, the non-clamping zone being shaped and dimensioned to accommodate the shaft being shifted laterally after the driver has advanced a given one of the anchors along the tether, distally past the tensioner, such that the shaft extends distally toward the anchor, bypassing the clamp.~~

~~146. The system according to claim 145, wherein the clamp defines a plurality of clamp surfaces, configured to engage the tether when the clamp is in the clamped state, and wherein the catheter device is shaped to provide the non-clamping zone by the clamp surfaces being eccentric with respect to the tether axis.~~

~~147. The system according to claim 138, wherein:~~

~~the clamp defines first and second clamp surfaces, configured to engage the tether when the clamp is in the clamped state, and~~

~~in the unclamped state, the clamp defines a gap between the first and second clamp surfaces, each of the tissue anchors being dimensioned to be advanced, by the anchor driver, along the tether, distally through the gap.~~

~~148. The system according to claim 147, wherein:~~

~~the anchor driver comprises a shaft, and a driver head at a distal end of the shaft, the driver head being reversibly couplable to each of the tissue anchors, and~~

~~for each of the anchors consecutively, the anchor driver is dimensioned to advance the anchor along the tether such that the anchor, the driver head, and at least a distal section of the shaft pass distally through the gap.~~

~~149. The system according to claim 148, wherein the extracorporeal unit is shaped to define a non-clamping zone laterally from the clamp, the non-clamping zone being shaped and dimensioned to receive a part of the shaft that is disposed in the gap, upon the part of the shaft being moved laterally out of the gap and into the non-clamping zone.~~

~~150. The system according to claim 138, wherein the extracorporeal unit comprises a lock that is configured, when locked, to lock the spring in a stressed state in which the spring is under stress.~~

~~151. The system according to claim 150, wherein the clamp is transitionable into the clamped state while the lock remains locked.~~

~~152. The system according to claim 151, wherein the lock is configured, when locked, to lock the spring in the stressed state by locking the clamp to the housing.~~

~~153. The system according to claim 152, wherein the lock is configured such that, while the clamp remains in the clamped state, unlocking of the clamp from the housing triggers the spring to cause the tensioner to pull proximally on the tether.~~

~~154. The system according to claim 152, wherein the lock comprises a detent and a recess.~~

~~155. The system according to claim 154, wherein the clamp defines the recess, and the housing comprises the detent.~~

~~156. The system according to claim 152, wherein the clamp is transitionable into the clamped state by squeezing the clamp.~~

~~157. The system according to claim 156, wherein the lock is configured such that, once the clamp is in the clamped state, further squeezing of the clamp unlocks the clamp from the housing, thereby triggering the spring to cause the tensioner to pull proximally on the tether.~~

~~158. A system for use with a subject, comprising:~~

a catheter device, comprising a distal member configured to be advanced into the subject, and an extracorporeal unit that comprises a winch that comprises:

a spring; and

a spool, coupled to the spring such that rotation of the spool in a first rotational direction applies stress to the spring;

a tether, having a distal portion that includes a distal end of the tether, and a proximal portion that includes a proximal end of the tether, the proximal portion being wound around the spool such that pulling of the distal portion of the tether away from the winch unwinds the tether from the spool by rotating the spool in the first rotational direction;

multiple tissue anchors, each of the anchors comprising:

a tissue-engaging element, and

a head that defines an eyelet that is threaded onto the tether such that the multiple tissue anchors are distributed in a series along the tether, between the spool and the distal end of the tether; and

an anchor driver that, for each of the anchors consecutively, is configured be reversibly coupled to the anchor and to be used to advance the anchor, distally along the tether toward the distal end of the tether.

159. The system according to claim 158, wherein the winch is configured to reduce slack in the tether by the spring, in response to the stress applied to the spring, applying tension to the tether by pushing the spool in a second rotational direction that is opposite to the first rotational direction.

160. The system according to claim 159, wherein the winch further comprises a reversibly-activatable ratchet that:

while activated, allows rotation of the spool in the first rotational direction, and inhibits rotation of the spool in the second rotational direction, and

while deactivated, allows rotation of the spool in both the first rotational direction and the second rotational direction.

161. The system according to claim 160, wherein the ratchet comprises:

a gear, coupled to the spool such that rotation of the spool rotates the gear;

a pawl, reversibly engageable with the gear, such that when the pawl is engaged with the gear the ratchet is activated, and when the pawl is disengaged from the gear the ratchet is deactivated; and

a switch configured to switch the ratchet between being activated and deactivated by moving the pawl between being engaged with the gear and being disengaged from the gear.

162. The system according to any one of claims 158-161, further comprising a stopper fixedly attached to the distal portion of the tether, the stopper obstructing advancement of any anchor of the series distally along the tether beyond the stopper, such that advancement, by the anchor driver, of a first tissue anchor of the series distally away from the winch pushes the stopper distally, which pulls the distal portion of the tether away from the winch.

163. The system according to any one of claims 158-162, wherein the distal member comprises a catheter that has a proximal opening, has a distal opening that is configured to be advanced into the subject, and defines a lumen between the proximal opening and the distal opening.

164. The system according to claim 163, wherein the multiple tissue anchors are mounted in a series on the extracorporeal unit of the catheter device.

165. The system according to claim 164, wherein:

the system further comprises a series of cartridges, each of the cartridges:

holding a respective tissue anchor of the series of tissue anchors,

being coupled to the extracorporeal unit at a respective initial position of a series of initial positions,

while remaining coupled to the extracorporeal unit, being moveable from the respective initial position to a deployment position in which the cartridge holds the respective tissue anchor opposite the proximal opening, and

being subsequently removable from the deployment position such that the deployment position is vacant for a successive cartridge in the series, and

the anchor driver is, for each of the anchors, configured to be coupled to the anchor while the anchor is held by the respective cartridge opposite the proximal opening, and to advance the anchor distally out of the respective cartridge, through the proximal opening, and through the catheter toward the distal opening.

166. The system according to claim 163, wherein the spool is mounted to rotate about a rotation axis, the lumen defines a lumen axis, and wherein the rotation axis is parallel with the lumen axis.

~~167. The system according to claim 163, wherein the spool is mounted to rotate about a rotation axis, the lumen defines a lumen axis, and wherein the rotation axis is coaxial with the lumen axis.~~

~~168. The system according to claim 163, wherein the spool circumscribes the catheter.~~

~~169. The system according to claim 168, wherein the spool is concentric with the catheter.~~

~~170. A system for use with a subject, comprising:~~

~~a catheter device, comprising:~~

~~a tube that has:~~

~~a distal opening that is configured to be advanced into the subject, and~~

~~a proximal end that defines a proximal opening, and~~

~~an extracorporeal unit that is coupled to the proximal end of the tube, defines a deployment position, and comprises a track;~~

~~a series of cartridges, each of the cartridges:~~

~~holding a respective tissue anchor of a series of tissue anchors,~~

~~while remaining coupled to the extracorporeal unit, being moveable along the track from to the deployment position such that, in the deployment position, the cartridge holds the respective tissue anchor opposite the proximal opening, and~~

~~being subsequently removable from the deployment position such that the deployment position becomes vacant for a successive cartridge of the series of cartridges.~~

~~171. The system according to claim 170, wherein:~~

~~the catheter device further comprises a port at the proximal opening of the tube, the port comprising a membrane, and~~

~~the membrane is shaped to define a first aperture through the membrane, a second aperture through the membrane, and a closed slit connecting the first aperture with the second aperture.~~

~~172. The system according to claim 170, further comprising an anchor driver that, for each of the anchors, is configured to be coupled to the anchor while the anchor is held opposite the proximal opening by the respective cartridge in the deployment position, and to advance the anchor distally out of the respective cartridge, through the proximal opening, and through the tube toward the distal opening.~~

~~173. The system according to claim 172, wherein the anchor driver is configured to, for each of the anchors, advance the anchor distally out of the respective cartridge, through the proximal opening, and through the tube toward the distal opening while the respective cartridge remains in the deployment position.~~

~~174. The system according to claim 173, wherein, for each of the cartridges, the cartridge is configured such that, while (i) the cartridge is at the deployment position, and (ii) the anchor driver is extended distally beyond the cartridge and through the tube toward the distal opening, the cartridge is removable from the deployment position.~~

~~175. The system according to any one of claims 170-174, wherein:~~

~~each of the tissue anchors comprises a tissue-engaging element, and a head that defines an eyelet, and~~

~~the system further comprises a tether:~~

~~threaded through the eyelet of each of the tissue anchors,~~

~~having a proximal portion that includes a proximal end of the tether, and~~

~~having a distal portion that includes a distal end of the tether, the distal end of the tether being advanceable distally through the tube into the subject while the proximal end of the tether remains outside of the subject.~~

~~176. The system according to claim 175, wherein an anchor driver, for each of the anchors, is configured to advance the anchor distally out of the respective cartridge, through the proximal opening, and through the tube toward the distal opening, while the eyelet of the anchor remains threaded on the tether.~~

~~177. The system according to claim 176, wherein:~~

~~the catheter device further comprises a port at the proximal opening of the tube, the port comprising a membrane,~~

~~the membrane is shaped to define a first aperture through the membrane, a second aperture through the membrane, and a closed slit connecting the first aperture with the second aperture, and~~

~~the port is arranged such that, for each of the anchors, the anchor driver is configured to advance the anchor distally out of the respective cartridge and through the membrane with the tissue-engaging element passing through the first aperture and the tether extending through the second aperture.~~

178. The system according to claim 177, wherein the port is arranged such that, for each of the anchors, the anchor driver is configured to advance the anchor distally out of the respective cartridge and through the membrane with the tissue-engaging element passing through the first aperture and the tether extending through the second aperture.

179. The system according to claim 176, wherein:

the catheter device further comprises a port at the proximal opening of the tube, the port comprising a membrane,

the membrane is shaped to define a first aperture through the membrane, a second aperture through the membrane, and a closed slit connecting the first aperture with the second aperture, and

the port is arranged such that:

the membrane is oriented substantially transversely to the proximal end of the tube, and

for each of the cartridges, while the cartridge is in the deployment position, the tissue-engaging element of the respective tissue anchor is aligned with the first aperture, thereby defining an anchor-advancement axis from the respective tissue anchor, through the first aperture, and through the tube.

180. The system according to claim 179, wherein the port is arranged such that, upon the distal end of the tether being advanced distally through the tube into the subject while the proximal end of the tether remains outside of the subject, the tether extends through the second aperture.

181. The system according to claim 175, wherein:

the catheter device further comprises:

a spring; and

a spool, coupled to the spring such that rotation of the spool in a first direction applies stress to the spring, and

the proximal portion of the tether is wound around the spool such that advancing of the distal portion of the tether distally through the tube rotates the spool in the first direction.

182. The system according to any one of claims 170-181, wherein each of the cartridges is configured to lock to the extracorporeal unit upon arriving at the deployment position.

~~183. The system according to any one of claims 170-182, wherein each of the cartridges comprises a displaceable barrier that obstructs the respective anchor from being advanced distally out of the cartridge.~~

~~184. The system according to claim 183, wherein each of the cartridges comprises a displacement mechanism that, upon actuation of the displacement mechanism, displaces the barrier such that the barrier ceases to obstruct the respective anchor from being advanced distally out of the cartridge.~~