discrete procedure or in combination with treating BPH. Such devices and methods are disclosed in U.S. Patents 7,645,286; 7,758,594; 7,766,923; 7,905,889; 7,951,158; 8,007,503; 8,157,815; 8,216,254; 8,333,776; 8,343,187; 8,394,110; 8,425,535; 8,663,243; 8,715,239; 8,715,298; 8,900,252; 8,936,609; 8,939,996; 9,320,511; 9,549,739; 10,105,132; and 10,299,780.

[0012] There remains a need for mechanical designs and systems to reliably, repeatably, and efficiently transfer energy from the handle to the cartridge of such devices. The present disclosure addresses these needs.

BRIEF SUMMARY OF THE INVENTION

[0013] Aspects of the present invention are directed towards mechanical designs and configurations for transferring mechanical energy from a handle to a cartridge for manipulating tissues and anatomical or other structures within the body of a human or animal subject for the purpose of treating diseases or disorders.

[0014] In one aspect, a cartridge for a system that includes a handle and the cartridge, where the handle is configured to accept a series of such cartridges and impart mechanical energy to the cartridge to deliver an implant, the cartridge includes a knob on the cartridge that moves from an unlocked position to a locked position such that the locked position secures the cartridge to the handle; a slidable cutter block connected to a slidable pusher block via an extension spring, wherein the cutter block and the pusher block are configured to slide in a linear direction within a body of the cartridge, wherein the spring is in an extended position exerting a force tending to draw the cutter block and the pusher block toward each other. The cartridge also includes a cutter pawl within the body of the cartridge and between the cutter block

and the pusher block and a pivotable implant actuator enclosed within the body of the cartridge and engaged with the pusher block such that the implant actuator prevents the pusher block from sliding under the force of the spring when the implant actuator is in a first position, wherein the cutter pawl has an engaged position with the cutter block such that a distal end of the cutter pawl prevents the cutter block from sliding towards the pusher block, and a disengaged position with the cutter block such that the distal end of the cutter pawl disengages the cutter block and allows the cutter block to slide towards the pusher block under the force of the spring, and wherein a distal end of the pusher block is configured to slide into contact with the cutter pawl and cause the cutter pawl to pivot out of engagement with the cutter block when the implant actuator pivots into a second position out of engagement with the pusher block.. A spring is in an extended position exerting a force tending to draw the cutter block and the pusher block toward each other. The cartridge includes a knob that moves from an unlocked position to a locked position such that the locked position secures the cartridge to the handle. The cartridge includes a pusher safety tab on the knob configured to engage

the implant actuator when the knob is in the unlocked position such that the implant actuator cannot pivot while so engaged. The pusher safety tab on the knob is configured to disengage the implant actuator when the knob is in the locked position and allow the implant actuator to pivot. The cartridge includes a cutter pawl within the body of the cartridge and between the cutter block and the pusher block. The cutter pawl has an engaged position with the cutter block such that the cutter pawl prevents the cutter block from sliding towards the pusher block and a disengaged position with the cutter block such that the cutter pawl allows the cutter block to slide towards the pusher block. The pusher block is configured to slide into contact with the cutter pawl and cause the cutter pawl to pivot out of engagement with the cutter block. The cartridge includes an indicator window on a cover of the body of the cartridge. The indicator window indicates the position of the cutter block. The indicator window is configured to provide access to slide the cutter block. The cartridge includes an access window on the knob that provides access to the cutter pawl to allow the cutter pawl to be moved from the engaged position to the disengaged position without the pusher block contacting the cutter pawl.

[0014a] In a second aspect, a cartridge for delivering an implant, includes: a knob on the cartridge that moves from an unlocked position to a locked position such that the locked position secures the cartridge to a handle; a cutter block connected to a pusher block via an extension spring, wherein the cutter block and the pusher block are configured to move in a linear direction within a body of the cartridge, wherein the spring is in an extended position exerting a force tending to draw the cutter block and the pusher block toward each other; a cutter pawl within the body of the cartridge and between the cutter block and the pusher block; and a pivotable implant actuator enclosed within the body of the cartridge and engaged with the pusher block

such that the implant actuator prevents the pusher block from moving under the force of the spring when the implant actuator is in a first position, wherein the cutter pawl has an engaged position with the cutter block such that a distal end of the cutter pawl prevents the cutter block from moving towards the pusher block, and a disengaged position with the cutter block such that the distal end of the cutter pawl disengages the cutter block and allows the cutter block to move towards the pusher block under the force of the spring, and wherein a distal end of the pusher block is configured to move into contact with the cutter pawl and cause the cutter pawl to pivot out of engagement with the cutter block when the implant actuator pivots into a second position out of engagement with the pusher block..

[0015] As disclosed, a cartridge includes a cartridge body coupled to a shaft assembly having a long axis with a distal portion of the shaft assembly having a lumen running through the distal portion. The lumen has a lumen radius of curvature defined by the curving of the lumen as it runs in a first direction parallel to the long axis to run in a second direction transverse to the long axis. A needle assembly is slidably disposed within the shaft assembly and the cartridge body and having a needle distal portion such that the needle distal portion is configured to exit the shaft assembly from an exit port at which the lumen terminates. The needle distal portion

We claim:

1. A cartridge for a system that includes a handle and the cartridge, where the handle is configured to accept a series of such cartridges and impart mechanical energy to the cartridge to deliver an implant, comprising:

a knob on the cartridge that moves from an unlocked position to a locked position such that the locked position secures the cartridge to the handle;

a slidable cutter block connected to a slidable pusher block via an extension spring, wherein the cutter block and the pusher block are configured to slide in a linear direction within a body of the cartridge, wherein the spring is in an extended position exerting a force tending to draw the cutter block and the pusher block toward each other;

a cutter pawl within the body of the cartridge and between the cutter block and the pusher block; and

a pivotable implant actuator enclosed within the body of the cartridge and engaged with the pusher block such that the implant actuator prevents the pusher block from sliding under the force of the spring when the implant actuator is in a first position,

wherein the cutter pawl has an engaged position with the cutter block such that a distal end of the cutter pawl prevents the cutter block from sliding towards the pusher block, and a disengaged position with the cutter block such that the distal end of the cutter pawl disengages the cutter block and allows the cutter block to slide towards the pusher block under the force of the spring,

wherein a distal end of the pusher block is configured to slide into contact with the cutter pawl and cause the cutter pawl to pivot out of engagement with the cutter block when the implant actuator pivots into a second position out of engagement with the pusher block.

2. The cartridge of claim 1, further comprising a pusher safety tab on the knob configured to engage the implant actuator when the knob is in the unlocked position such that the implant actuator cannot pivot while so engaged.

3. The cartridge of claim 2, wherein the pusher safety tab on the knob is configured to disengage the implant actuator when the knob is in the locked position and allow the implant actuator to pivot.

4. The cartridge of claim 1, further comprising an indicator window on a cover of the body of the cartridge.

5. The cartridge of claim 4, wherein the indicator window indicates the position of the cutter block.

6. The cartridge of claim 5, wherein the indicator window is configured to provide access to slide the cutter block.

7. The cartridge of claim 1, further comprising an access window on the knob that provides access to the cutter pawl to allow the cutter pawl to be moved from the engaged position to the disengaged position without the pusher block contacting the cutter pawl.

8. A cartridge for delivering an implant, comprising:

a knob on the cartridge that moves from an unlocked position to a locked position such that the locked position secures the cartridge to a handle;

a cutter block connected to a pusher block via an extension spring, wherein the cutter block and the pusher block are configured to move in a linear direction within a body of the cartridge, wherein the spring is in an extended position exerting a force tending to draw the cutter block and the pusher block toward each other;

a cutter pawl within the body of the cartridge and between the cutter block and the pusher block; and

a pivotable implant actuator enclosed within the body of the cartridge and engaged with the pusher block such that the implant actuator prevents the pusher block from moving under the force of the spring when the implant actuator is in a first position,

wherein the cutter pawl has an engaged position with the cutter block such that a distal end of the cutter pawl prevents the cutter block from moving towards the pusher block, and a disengaged position with the cutter block such that the distal end of the cutter pawl disengages the cutter block and allows the cutter block to move towards the pusher block under the force of the spring,

wherein a distal end of the pusher block is configured to move into contact with the cutter pawl and cause the cutter pawl to pivot out of engagement with the cutter block when the implant actuator pivots into a second position out of engagement with the pusher block.

9. The cartridge of any one of claims 1 or 8, wherein the implant comprises a distal anchor component, a suture portion, and a proximal anchor component.

10. The cartridge of claim 9, wherein the pusher block is configured to push the proximal anchor component onto the suture portion.

11. The cartridge of claim 9, wherein the cutter block is configured to cut the suture portion.