claimed subject matter. The subject matter should be understood by reference to appropriate portions of the entire specification, any or all drawings, and each claim.

[0007a] In one aspect, the present disclosure refers to an implantable containment apparatus comprising:

(a) a conduit comprising an exterior surface and an interior surface, wherein the interior surface defines a luminal region, the conduit having a first end comprising a first resealable port, and a second end comprising a second resealable port;

(b) a shaping element, wherein the shaping element is configured to induce the conduit to have a curved shape,

wherein the conduit is adapted to receive the therapeutic device into the luminal region through the first or the second resealable port.

[0007b] In another aspect, the present disclosure refers to an implantable containment apparatus comprising:

a) a conduit comprising an exterior surface and an interior surface, wherein the interior surface defines a luminal region having a first end and a second end, wherein the conduit has a first configuration where the ends are unconnected and a second configuration where the ends are connected and the conduit has a curved shape; and

b) a fitting for removably connecting the first end to the second end.

[0008] One example disclosed herein is an implantable containment apparatus. The containment apparatus is useful for receiving a therapeutic device. The containment apparatus includes a conduit, also referred to as a sheath, that includes an exterior surface and an interior surface, where the interior surface defines a luminal region. The conduit has a first end including a first resealable port and a second end including a second resealable port. The containment apparatus further includes a shaping element, where the shaping element is configured to induce the conduit to have a curved shape. The conduit is adapted to receive a biological moiety or a therapeutic device into the luminal region through the first or the second resealable port.

[0009] In some examples, a conduit of a containment apparatus disclosed herein includes a laminate of a first layer adjacent to a second layer. Optionally, the first layer includes a first porous material having a first porosity that is impervious to

cellular ingrowth across the interior surface of the conduit, and the second layer includes a second porous material having a second porosity that is sufficiently porous to permit growth of vascular tissue from a patient within the pores of the second porous material up to, but not through, the first layer. Optionally, the conduit includes only the second porous material, or includes a laminate of multiple porous materials where each porous material has sufficient porosity to permit growth of vascular tissue from a patient within the pores of the material, such that growth of vascular tissue is permitted through the entire thickness of the material forming the conduit.

[0010] In some examples, the first and/or second porous material of a containment apparatus disclosed herein is polytetrafluoroethylene (PTFE). In some examples, the first and/or the second porous material includes a bioabsorbable material. For example, first and/or the second porous material may include polyglycolide:trimethylene carbonate (PGA:TMC). In some embodiments, the first and/or the second porous material may include both porous PTFE and a bioabsorbable material. For example, the first and/or the second porous material may include a PTFE material coated with a bioabsorbable material or the

bioabsorbable material may be incorporated into or onto the first and/or the second porous material in the form of a powder.

[0011] In some examples, the shaping element includes a shape memory material selected from shape memory alloys and shape memory polymers. In some examples, the shaping element is a winding, a strip, a spine, or a stent. In some examples, the shaping element is a length of the conduit having an ovoid cross-section. In some examples, the shaping element is at least one magnet.

[0012] In some examples, the containment apparatus further includes at least one fitting for separably joining the first end and the second end. In some examples, the at least one fitting comprises snap fittings, magnetic fittings, weldable fittings, sliding fittings, interference fitting, and/or pressure fittings.

[0013] In some examples, the containment apparatus further includes one or more sensors. In some examples, the one or more sensor is configured to detect temperature, infection, oxygen level, radio-frequency identification (RFID), pressure, pH, glucose, or completion of circuitry.

[0014] In some examples, disclosed herein is an implantable containment apparatus for a patient in need thereof, the containment apparatus including a conduit including an exterior surface and an interior surface, where the interior surface defines a luminal region having a first end and a second end. The conduit has a first configuration where the ends are unconnected and a second configuration where the ends are connected and the conduit has a curved shape. The containment apparatus further includes a fitting for removably connecting the first end to the second end.

[0015] Another example disclosed herein is a method for implanting a containment apparatus in a tissue bed of a patient that includes inserting the containment apparatus into a substantially tubular cavity in the tissue bed, where the containment apparatus includes a conduit having an exterior surface, an interior surface defining a luminal region, a first end including a resealable port, and a second end including a resealable port, and a shaping element, where the shaping element is configured to induce the conduit to form a generally toroidal configuration. The conduit is adapted to receive at least one therapeutic device into the luminal region through at least one resealable port. The method further includes placing the apparatus into a generally toroidal configuration.

[0016] In some examples, placing the apparatus into a generally toroidal configuration includes allowing the apparatus to migrate within the tissue bed into a generally toroidal configuration.

[0017] In some examples, a method for implanting a containment apparatus in a tissue bed of a patient, further includes deforming the containment apparatus from a primary configuration to a deformed configuration prior to inserting the containment apparatus, where the primary configuration is a generally toroidal configuration.

[0018] In some examples, a method for implanting a containment apparatus in a tissue bed of a patient further includes joining the first end and the second end.

[0019] A further example disclosed herein is a method for implanting a containment apparatus in a tissue bed of a patient including inserting a first end of the containment apparatus into a curved, substantially tubular cavity in the tissue bed through an entry point in an incision in the tissue bed, where the containment apparatus includes a conduit including an exterior surface, an interior surface that defines a luminal region, a first end comprising a resealable port, and a second end including a resealable port. The conduit is adapted to receive at least one therapeutic device into the luminal region through at least one resealable port. The method further includes advancing the first end of the containment apparatus in a curved path through the tissue bed, and removing the first end of the containment apparatus through an exit point in the incision in the tissue bed proximate the entry point.

[0020] In some example, a method for implanting a containment apparatus in a tissue bed of a patient further includes joining the first end and the second end of the containment apparatus after removing the first end of the containment apparatus.

[0021] In some example, a method for implanting a containment apparatus in a tissue bed of a patient further includes placing the apparatus into a generally toroidal configuration.

[0022] In some example, a method for implanting a containment apparatus in a tissue bed of a patient further includes deforming the containment apparatus from a primary configuration to a deformed configuration prior to inserting

the first end of the containment apparatus into the curved, substantially tubular cavity, where the primary configuration is a generally toroidal configuration.

[0023] The apparatus and implantation method disclosed herein reduce trauma to the host tissue as compared to known apparatuses and implantation methods, allowing vascularization in a short period of time so that therapy provided by the biological moiety is immediately available to a patient.

BRIEF DESCRIPTION OF THE DRAWINGS

[0024] The accompanying drawings are included to provide a further understanding of the disclosure and are incorporated in and constitute a part of this specification, illustrate embodiments, and together with the description serve to explain the principles of the disclosure.

[0025] FIG. 1A is a top view of an apparatus as described herein having a curved shape where the ends abut according to embodiments disclosed herein.

[0026] FIG. 1B is a close up front view of FIG. 1A showing no gap between the ends.

[0027] FIG. 2A is a top view of an apparatus as described herein having a curved shape where the ends are separated according to embodiments disclosed herein.

[0028] FIG. 2B is a close up front view of FIG. 2A showing a gap between the ends.

[0029] FIG. 3 is a top view of an apparatus as described herein having a curved shape where the ends are widely separated according to embodiments disclosed herein.

[0030] FIG. 4A is a top view of an apparatus as described herein having a curved shape where the ends are separated and not aligned according to embodiments disclosed herein.

[0031] FIG. 4B is a close up front view of FIG. 4A that ends are not aligned.

[0032] FIG. 5 is a perspective view of an apparatus as described herein having a generally toroidal configuration where the ends are aligned and joined by a removable fitting according to embodiments disclosed herein.

[0033] FIG. 6 is a partial view of an apparatus as described herein having a shaping element in form of a wrapping according to embodiments disclosed herein.

8. The apparatus of claim 7, wherein the bioabsorbable material is in the form of a powder.

9. The apparatus of claim 1, wherein the shaping element comprises a shape memory material selected from shape memory alloys and shape memory polymers.

10. The apparatus of claim 1, wherein the shaping element is a winding, a strip, a spine, or a stent.

11. The apparatus of claim 1 wherein the shaping element is a length of the conduit comprising an ovoid cross-section.

12. The apparatus of claim 1, wherein the shaping element is at least one magnet.

13. The apparatus of claim 1, further comprising at least one fitting for separably joining the first end and the second end.

14. The apparatus of claim 1, further comprising one or more sensors.

15. A implantable containment apparatus comprising:

a) a conduit comprising an exterior surface and an interior surface, wherein the interior surface defines a luminal region having a first end and a second end, wherein the conduit has a first configuration where the ends are unconnected and a second configuration where the ends are connected and the conduit has a curved shape; and

b) a fitting for removably connecting the first end to the second end.