suture loop from the snare loop assembly, the closure device may be withdrawn. In some variations, it may be desirable to further tighten the suture loop after the closure device has been withdrawn. This may be accomplished with one or more additional devices (e.g., a knot pusher).

It should be appreciated that one or more of the tensioning devices described above may be utilized to manage the tension applied to the suture loop during tightening of the suture loop, which may increase repeatability of suture loop tightening by reducing user variation, such as described in U.S. patent application Ser. No. 13/490,919, which was previously incorporated by reference.

It should be appreciated that some or all of the guide member or positioning elements may be removed from the left atrial appendage at any suitable point or points during the methods. For example, in some variations, some or all of these devices or device components may be removed from the left atrial appendage after closing the snare loop assembly but prior to releasing the suture loop from the snare loop assembly. In other variations, some or all of these structures may be removed after releasing the suture loop from the snare loop assembly. The suture loop may be further tightened after some or all of these elements are removed. In still other variations, one or more expandable members may be detached and may remain in the left atrial appendage. In these variations, the expanded member may act to displace blood from the left atrial appendage and to help keep additional blood from entering the left atrial appendage. When the expandable member comprises a balloon or inflatable structure, the balloon may be filled with any suitable substance, such as, for example, saline or one or more hydrophilic polymers (e.g., hydroxyethyl methacrylate).

In yet other variations, one of the guide members or other elements placed inside of the left atrial appendage may be configured to release one or more materials to the closed left atrial appendage prior to removal. This material may act to create haemostasis or embolization of the closed left atrial appendage, which may prevent the ingress and egress of blood from the closed left atrial appendage. Examples of suitable materials include, but are not limited to gelatins (e.g., gel foam), liquid embolic agents (e.g. n-butyle-2-cyanoacrylate, ethidol), gelatin microspheres (e.g., polyvinyl alcohol acrylic microspheres), or pieces of thrombotic materials (e.g., platinum, stainless steel, Dacron wool, combinations thereof or the like).

In some variations, it may be desirable to lock the suture knot in place once the suture loop has been tightened around the left atrial appendage. In some variations, the suture knot may be locked using one or more unidirectional locking structures, as described in more detail above. In other variations, the knot may be locked in place with one or more bioglues or other biocompatible adhesives (e.g., cyanoacrylate). In still other variations, energy (e.g., RF energy, thermal energy, light energy, or the like) may be used to fuse the knot in place. In yet other variations, one or more portions of the suture knot may be configured to expand upon application of or exposure to one or more stimuli. For example, in some variations the suture may comprise collagen filaments that may be exposed to moisture when the suture is severed. Once the collagen is exposed to moisture, it may expand to lock the suture knot in place.

Once the suture loop has been properly placed, the suture may be severed in any suitable fashion, and at any suitable location along its length (i.e., from immediately adjacent to the knot at the left atrial appendage to just proximal to, or just distal to, the skin surface). In some instances it may be desirable to sever the suture at the knot itself (e.g., in instances where it is desirable to release tension on the suture entirely). The suture may be severed in any suitable manner, such as for example by mechanically cutting, or by the application of energy. For example, the suture may be severed with the application of light energy, thermal energy, RF energy, electrical energy, magnetic energy, electromagnetic energy, kinetic energy, chemical energy, and combinations of any of the above.

Although the foregoing invention has, for the purposes of clarity and understanding been described in some detail by way of illustration and example, it will be apparent that certain changes and modifications may be practiced, and are intended to fall within the scope of the appended claims. Additionally, it should be appreciated that the closure devices described here may comprise any combination of device components and features described above.

We claim:

**1**. A device for closing a target tissue comprising:

an elongate body;

a snare loop assembly extending at least partially from the elongate body, wherein the snare loop assembly comprises a snare comprising a snare loop and a suture loop releasably attached to the snare, wherein the snare comprises a first end and a second end, and wherein advancement of the first end of the snare relative to the elongate body increases the diameter of the snare loop and wherein retraction of the first end of the snare relative to the elongate body decreases the diameter of the snare loop;

a shuttle, wherein the second end of the snare is connected to the shuttle; and

a locking element, wherein the locking element is configured to releasably couple the shuttle to the elongate body and is further configured to release the shuttle from the elongate body, and wherein when the shuttle is released, the first and second ends of the snare are spaced apart.

**2**. The device of claim **1** wherein elongate body comprises a recess in a side wall of the elongate body, and wherein the shuttle is positioned in the recess when the shuttle is releasably coupled to the elongate body.

**3**. The device of claim **2** wherein the locking element comprises a lock wire.

**4**. The device of claim **3** wherein the lock wire extends through a lock wire lumen of the elongate body and a lock lumen of the shuttle when the shuttle is releasably coupled to the elongate body.

**5**. The device of claim **4** wherein the lock wire comprises a bend.

**6**. The device of claim **5** wherein the bend extends at least partially into a window of the shuttle when the shuttle is releasably coupled to the elongate body.

**7**. The device of claim **2** wherein the shuttle comprises a projection configured to fit within a channel within the recess of the elongate body and configured to resist rotation between the shuttle and the elongate body.

**8**. The device of claim **2** wherein the recess of the elongate body comprises a projection configured to fit within a channel of the shuttle and configured to resist rotation between the shuttle and the elongate body.

**9**. The device of claim **1** further comprising a handle attached to the elongate body.

**10**. The device of claim **9** wherein the handle comprises a suture control for tightening the suture loop, a snare control to control movement of the first end of the snare, and a snare release configured to release the shuttle from the elongate body.