system's components shown in FIG. **4**. As shown here, the housing **14** may be secured to the central member and the base **10** by snapping these components together. To affix the housing over the central member, the user may place thumbs beneath the bottom end **30** and may place fingers upon the flange **28** or grasping ridge. Exerting downward finger pressure on the flange **28** along with upward pressure on the bottom end **30** is sufficient to snap the two components together, engaging the affixation means and complementary affixation means as illustrated previously. When the housing **14** has been properly positioned over the central member **22**, a simulated anterior portion of an eye may be formed that is dimensionally, geometrically, and anatomically accurate. The top portion of the housing forms an artificial sclera **44**. The artificial cornea **12** joins with the artificial cornea **44** to form a smooth transitional zone **48** that simulates the normal anatomic junction between the cornea and the sclera in the human eye.

FIG. **6** illustrates a user **100** practicing a corneal incision according to the systems and methods of the present invention. In the figure, the user **100** is stabilizing the practice system by grasping the bottom end **30**. In other embodiments, the practice system may be imbedded in other types of holders so that the user **100** need not grasp the system itself. For example, the practice system may be imbedded in a larger contoured surface that simulates geometries, dimensions, or anatomic features of the human face. As shown in FIG. **6**, the user **100** is grasping a surgical tool **54** using a precision grip familiar to practitioners in this art. While it is shown here that the user **100** is resting the ulnar fingers of the hand upon the flange **28**, it is understood that other configurations of the housing may be provided upon which the user may rest all or part of the hand. For example, if the practice system is imbedded in a larger contoured surface, the user's hand may rest upon all or part of this surface. As shown in FIG. **6**, the user **100** is directing the surgical tool **54** into the practice cornea **12** at a surgically proper angle **58**. The artificial cornea **12**, the artificial iris **52**, which may be fabricated from the top surface **24** of the central member (not shown), and the artificial sclera **44**, which may be fabricated from the top portion **20** of the housing **14** as shown here, are all combined to simulate for the user the dimensions and geometry of the anterior surface of a human eye. Specifically, the artificial sclera **44** has a slope and dimensions that simulate those of the human sclera. Similarly, the artificial iris **52** has dimensions and a slope that simulate those of the human iris. Accordingly, the user **100** may use the slope of the artificial iris **52** or the slope of the artificial sclera **44** to guide the direction of the incision into the artificial cornea **12** to form a surgically proper angle **58** of incision. Furthermore, the pressure supporting the artificial iris **12**, as has been previously described, simulates the pressure supporting a human cornea. Therefore, as the user **100** directs the surgical tool **54** into the artificial iris **12** at the surgically proper angle **58**, the user **100** will encounter resistance that simulates the natural situation. In addition, as has been discussed previously, the artificial cornea **12** is fabricated from materials that simulate a surgical characteristic of the human cornea. The combination of all these features provides for the user **100** a simulation of human surgical anatomy that has a look and feel sufficiently close to the surgical experience that the user **100** may practice surgical techniques realistically.

In a preferred embodiment, the simulation systems and methods of the present operation are directed towards practicing corneal incisions. However, it is understood that incisions are commonly made in the cornea in order to approach deeper structures. For example, a variety of clear corneal incisions are used for cataract surgery. The present invention, therefore, provides a system for practicing corneal incisions through which simulated deeper tissues may be approached. FIG. **7** illustrates an embodiment of a system according to the present invention that will permit practicing an incision through an artificial cornea **12** and gaining access therethrough to an artificial lens **50**. The features of the housing **14** and the central member **22** depicted in FIG. **7** are similar to those features shown in more detail in FIG. **3**. However, in FIG. **7**, it may be appreciated that an artificial lens **50** is positioned deep to an artificial pupil **38**. The artificial pupil shown in FIG. **7** is shaped as an aperture through which a surgical tool entering the pressurized chamber **32** may be directed by the user toward the artificial lens **50** to perform further manipulations. The top surface **24** of the central member is configured here as an artificial iris. The system depicted in FIG. **7** will allow the efficacy: of practice incisions in the artificial cornea **12** to be evaluated as they relate to manipulating an artificial lens. This system will further permit trainees to determine the effects that manipulating the artificial lens **50** through a practice incision in the artificial cornea **12** might have on the artificial corneal incision itself. For example, poorly executed manipulations of the artificial lens may traumatize the edges of the corneal incision or may extend it inadvertently. It may be useful for trainees to practice working on deeper structures with the opportunity to see whether their maneuvers damage the corneal access incision.

The embodiments depicted and described herein are considered in all respects to be illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description. All variations that come within the meaning and range of equivalency of the following claims therefore are intended to be embraced thereby.

We claim:

1. A system for opthalmology surgery training, the system comprising:

a base having an upper portion and a lower portion;

a removable corneal portion configured for placement over the upper portion of the base;

a cover having an aperture at its top end, such that placement of the cover over the base permits the corneal portion to extend through the aperture, and results in the securing of the corneal portion across the aperture between the upper portion of the base and the top end of the cover; and

a mechanism to permit a secure engagement between the cover and the base, the mechanism including a groove at the lower portion of the base and a protrusion at a bottom end of the cover for removable engagement with the groove.

2. The system of claim **1**, wherein the top end of the cover is provided with an angle of curvature substantially equal to an angle of curvature of a human sclera.

3. The system of claim **1**, wherein the upper portion of the base simulates an iris configured to complementarily engage within the aperture of the cover.

4. The system of claim **1**, wherein the base includes a surface at its lower portion to permit the base to be free standing.

5. The system of claim **1**, wherein the cover includes a flange to permit a user to facilitate placement of the cover onto and removal of the cover from the base.

6. The system of claim **1**, wherein the mechanism includes a plurality of threads along a portion of the base and complementary threads along an interior surface of the cover.