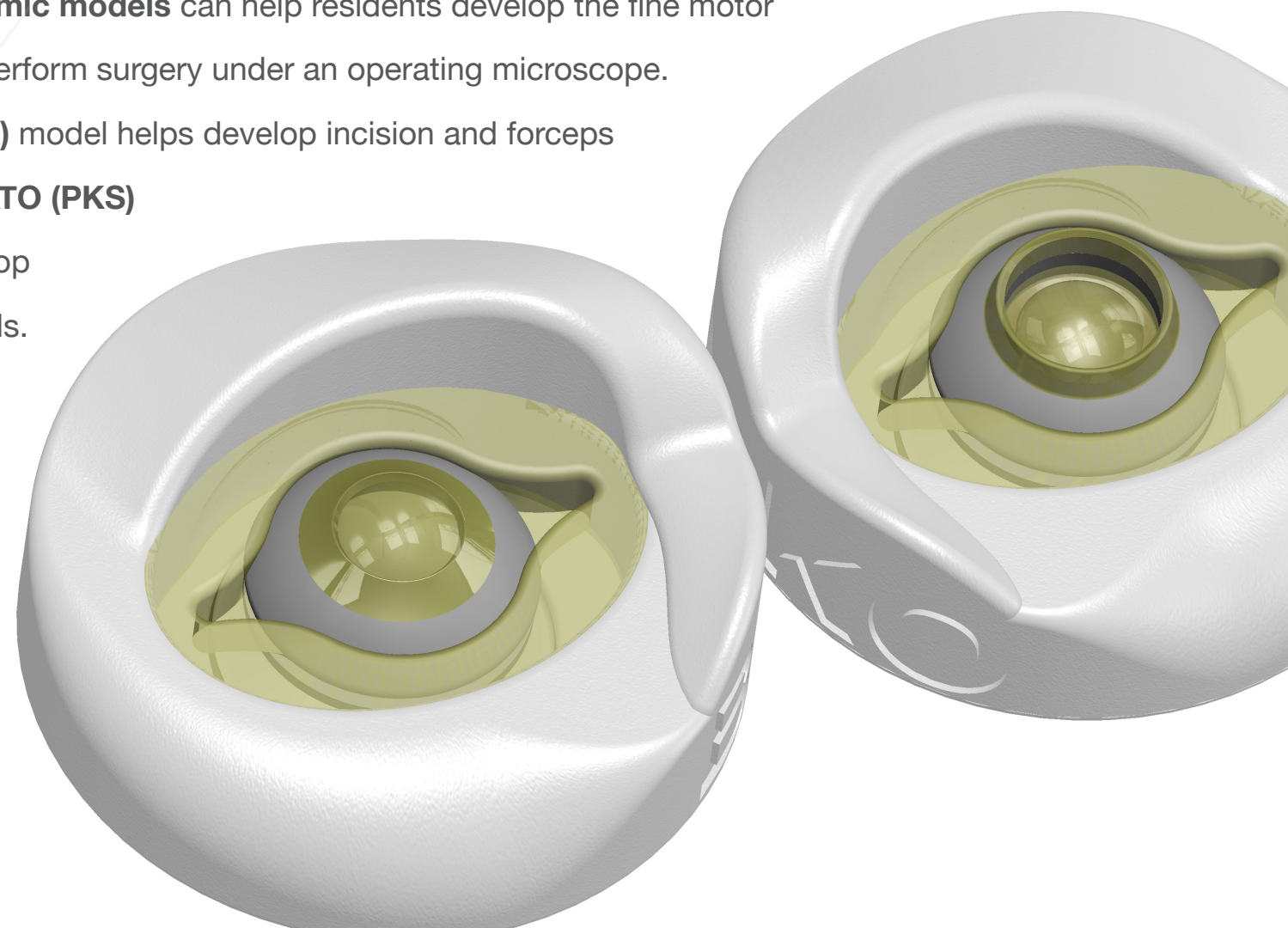# BIONIKO
SURGERY MODELS

present the major dexterity and coordination challenges of a particular type of surgery, and allow the techniques to be practiced using real surgical instruments. Surgical models allow seasoned surgeons to demonstrate special surgical techniques to students, and the students to practice and perfect the technique in a controlled and repeatable manner. Furthermore, synthetic models enable repeatable and standardized assessment of surgical techniques for instructional purposes.

BIONIKO ophthalmic models can help residents develop the fine motor skills required to perform surgery under an operating microscope. The **RHEXIS (RHX)** model helps develop incision and forceps control. The **KERATO (PKS)** model helps develop micro-suturing skills.
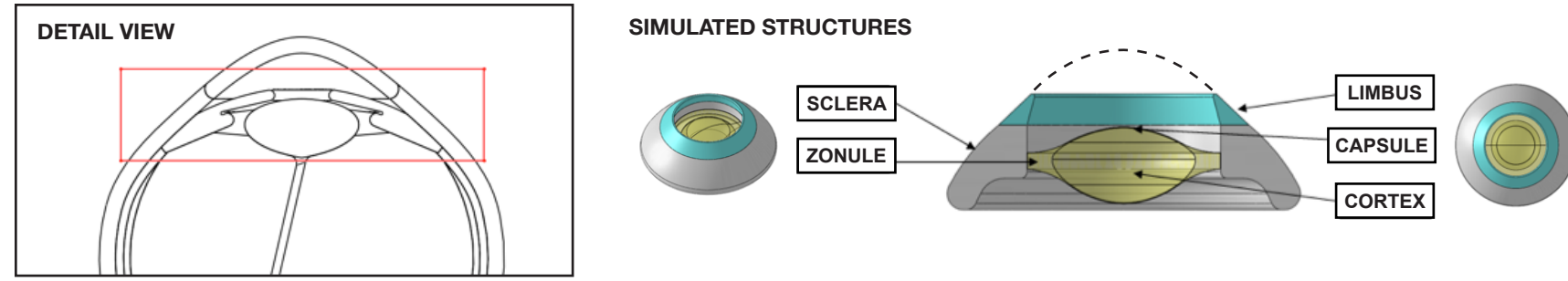
BIONIKO

BIONIKO

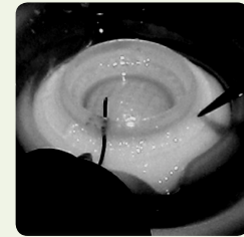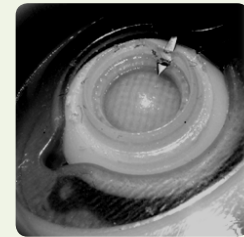# OPHTHALMIC
SURGERY MODELS

RHEXIS
MODEL

By presenting the main challenges of the capsulorhexis technique, the **RHEXIS (RHX)** model allows you to train and improve the fine motor skills required to manipulate instruments through ports; a fundamental skill in ophthalmic surgery

DETAIL VIEW

SIMULATED STRUCTURES
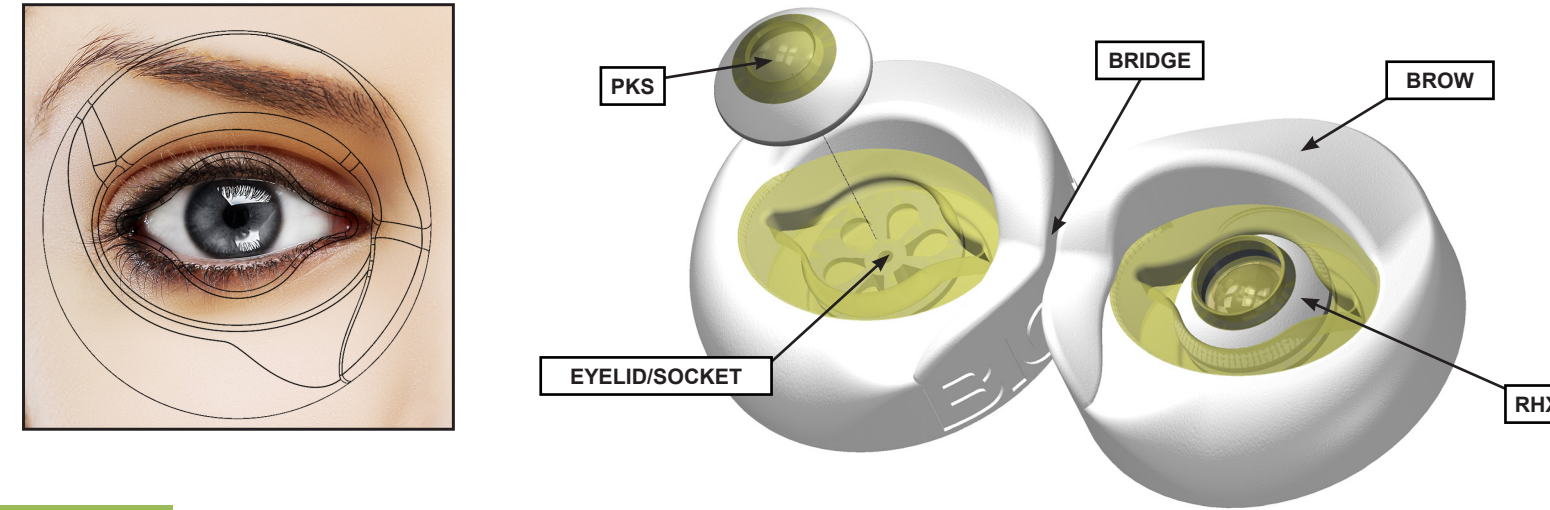

SCLERA
ZONULE
LIMBUS
CAPSULE
CORTEX

HOW TO USE

1 **Create an access port.** Make an incision on the limbus with your slit knife of choice. Entry depth, angle and incision width can be demonstrated and practiced

2 **Start a capsule tear.** Introduce a cystotome through the port and create a tear on the capsule

3 **Perform a capsulorhexis**. Manipulate your micro-forceps of choice through the port to create a continuous circular tear on the capsule

NOTE: Surgery models are best used with the aid of an experienced surgeon/instructor and the use of an operating microscope(OPMI).
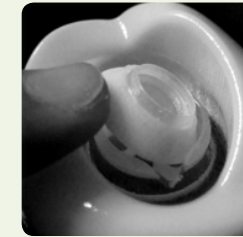

ORBIT
MODEL

The **ORBIT** serves as a holder for the RHX and PKS models and provides reference and realism by challenging you to manipulate your instruments according to the facial structures around the eye. There are both right (OD) and left (OS) ORBIT models to practice both approaches.
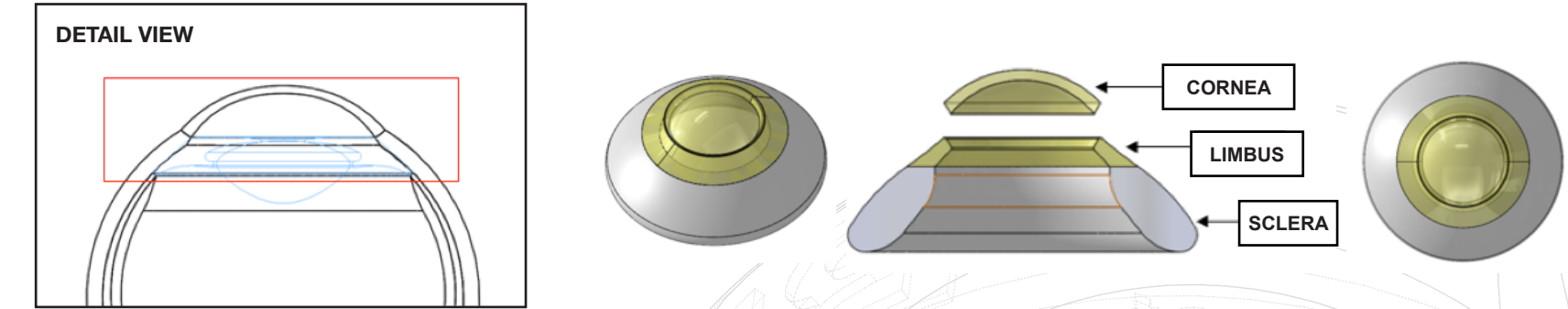

PKS
BRIDGE
BROW
EYELID/SOCKET
RHX

HOW TO USE

1 The ORBIT has a flexible "eyelid" that receives and secures the RHX and PKS models. Use BSS or water drops to moisten the eyelid and socket

2 To load a model, Insert the edge of the sclera into the superior eyelid and push the other side into the socket with your fingers until the model is secure

3 Once a surgery has been practiced, the model can be removed from the ORBIT by inserting a blunt point in either corner of the eyelid and leveraging the model out
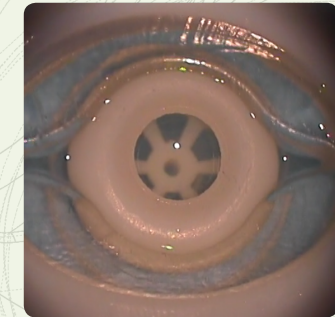

KERATO
MODEL

By presenting the challenges of a penetrating keratoplasty, the **KERATO (PKS)** model allows you to train and improve the motor skills required to perform precise suturing with forceps under a microscope; a fundamental skill in ophthalmic surgery.
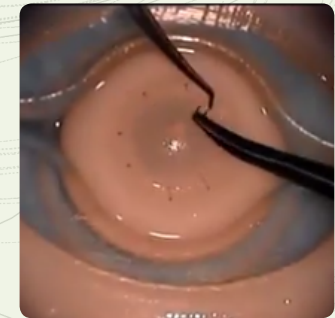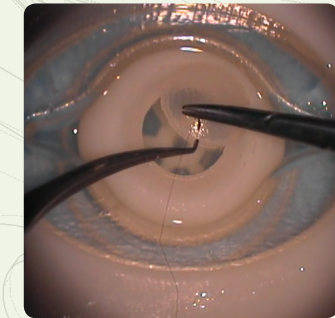
DETAIL VIEW

CORNEA
LIMBUS
SCLERA

HOW TO USE

The PKS model has two components: The LIMBUS-SCLERA ring and the CORNEA button.

1 Insert the LIMBUS-SCLERA ring into the ORBIT

2 Using forceps and 10-0 suture, attach the CORNEA button to the limbus at eight evenly spaced points. Tension and location of the sutures should be as uniform as possible to minimize distortion of the cornea

NOTE: Surgery models are best used with the aid of an experienced surgeon/instructor and the use of an operating microscope(OPMI).