A
fter observing a decade of normal macular anatomy and function following cases of hemorrhagic internal limiting membrane (ILM) separation in Terson’s Syndrome, Morris et al1 first advocated intentional ILM removal for “traction maculopathy” in 1994. By 2002, ILM removal had become commonplace in the treatment of many vitreoretinal disorders, including macular pucker, macular holes, and refractory diabetic macular edema.2 ILM peeling is now an expected skill of graduating retinal fellows, yet the margin of error in learning this technique is literally measured in microns—too small to practice in the human eye. Current computerized modules, like VRMagic’s EyeSi (Mannheim, Germany), provide a virtual practice environment for peeling, but cost hinders their availability in many teaching settings.

NEW TEACHING MODEL
We have developed an inexpensive teaching model that provides a simulated peeling environment and can be set up easily in the operating room or resident teaching lab. In order to set up your own peeling model, the following materials will be needed:

- surgical microscope;
- forceps of your choice (we use Fullview ILM Forceps [Synergetics, O’Fallon, MO]);
- polystyrene foam (Styrofoam, Dow Chemicals) mannequin head (available at most beauty supply stores);
- Scheie foam disposable headrest (Stryker Medical, Kalamazoo, MI);
- tissue paper;
- surgical tape;
- spray bottle filled with water; and
- spray bottle filled with indocyanine green (ICG) dye or ink solution.

The polystyrene foam head should have its “globes” removed with a knife. The head is placed on the Scheie headrest and taped to a table. A rolled, double-sided piece of tape is then placed into the orbit and a dry piece of tissue paper is placed on top of it. Stain another piece of tissue paper with ink or ICG (alternatively,
use colored tissue paper) and place this piece into the orbit with the stain centered (Figure 1). Wet the tissue paper with the water spray bottle and begin practicing your peel (Figure 2). Continue to wet the tissue paper, as the layers should remain soaked together throughout your peeling maneuvers. The lighter tissue will become visible wherever peeling of the colored surface layer occurs (Figure 3). Too deep a grasp will be obvious by distortion of the underlying tissue layer.

**PRACTICING TECHNIQUE**

There are numerous advantages to our peeling model. It allows one to work on technique in a controlled, comfortable setting, with emphasis placed on arm and hand positioning, forceps control, and prolonged maneuvering near the tissue surface. The opposite hand can be used to gently maneuver the mannequin head, simulating controlling the eye position by a second instrument. In mastering each of these elements, one will develop the skill and confidence necessary to continuously and safely work near the retinal surface, avoiding tremors or sudden movements that could be harmful to the human eye.

Lifting the wet colored tissue paper layer from the wet white layer underneath without disturbing it is a close approximation to ILM removal. Of course, our model does not simulate all aspects of the peel, including exact manipulation of the globe and the natural stress of working in an operating room setting. In addition, ILM peels less easily than tissue paper and behaves differently once it has been peeled (ie, scrolling). One can, however, practice peeling the ILM using various methods, including “key hole” and “apple peel maculorhexis” techniques, with the instrument of one’s choice.3,4

**SUMMARY**

In conclusion, we have developed an inexpensive model for ILM peeling that is simple to set-up. The tissue paper model and other videos, including techniques of ILM removal, can be viewed at our Web site: www.rsavideos.org.

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