

## **Perc Trainer™ - Overview**

### **Applications**

A unique feature of the Perc Trainer™ kidney model is the ability to reproduce the ultrasound and fluoroscopic features of the human kidney. Simulation of all endoscopic procedures and techniques of access are possible\* including:

\*model may require inversion to practice supine approach to the kidney.

- Ultrasound
- Fluoroscopy
- Percutaneous access
- Flexible ureteroscopy

The Perc trainer is designed for maximum realism and thus has a limited life span. This can be maximised through a step-wise approach to training, commencing with skinny needle puncture, followed by guidewire placement, track dilatation and finally nephroscopy and stone retrieval.

Depending on the procedure practised, re-use is limited, but the resealing material allows repeated needle puncture of the collecting system using a fine needle.

The model can be used in a dry skills lab setting or incorporated into an operating theatre. It can be used with any endoscopic instruments, stone retrieval and fragmentation devices.

## **Intructions & Care for your Mediskills Perc Trainer Model**

The Perc Trainer can be used with any standard urological instrument, needle or guide wire - for access or for stone retrieval.

The anatomical configuration is such that with six calices (three anterior, three posterior), it is designed to be used to simulate fluoroscopic or ultrasound access.

Stone retrieval can be performed in the standard way. You will find that the stones are quite hard and you may have to use ultrasound to fragment them.

The Perc Trainer can be used for basic flexible renoscopy.

Before using the model for the first time it will require priming by replacing the air in the collecting system with water. (These steps are necessary if the model is used for flexible ureteroscopy training).

- Place the model on its side with the tube (ureter) upper most.
- Fill the model with saline or water, the main point is to ensure that all of the air bubbles are removed. This entails slow filling through the latex rubber tube on the side. You need to upend the model with the tube uppermost and rotate the model slowly in all planes so that the air bubble rise to the top and come out through the filling tube.
- Gradually fill the collecting system with water while aspirating the air using the three-way tap until no air bubbles can be aspirated. The model may have to be tilted from side to side to fill the calyces.
- Avoid over filling of the collecting system.
- The three-way tap should then be locked to avoid air gaining access to the collecting system when using ultrasound guided puncture.
- When fluoroscopy is used, the syringe can fill the appropriate contrast (air or iodinated contrast agent) to replace the water in the collecting system.
- You then clamp the filling tube and lie the model in the anatomical position, i.e. on its base.

Due to the life like nature of the materials used in the Perc Trainer it can, like real tissue, be easily damaged. By taking a few common sense precautions the useful life of the model can be extended.

- Avoid puncturing the kidney with anything more than a fine needle, you can reuse the Perc Trainer several times over.
- Avoid the use of sharp objects ( except for the purpose of practising specific techniques).
- The surface of the soft silicone will easily mark. Avoid contact with printed material, photocopies, etc.
- Accidental cuts or tears may be repaired with cyanoacrylate type super glue, however use very sparingly to avoid hard ridges forming along the line of bonding. Because of the nature of the material small tears and punctures may "self seal"until stressed again.