Realistic Head Models from KARL STORZ
for Training Endoscopic Neurosurgical Techniques
In-house Training Solutions from KARL STORZ

Endoscopic training opportunities directly at the hospital

The steady progress in minimally invasive surgical techniques requires ongoing training and professional development of surgeons and adequate opportunities for practice.

Basic neurosurgical and psychomotor skills that must be learned and practiced including:

- Camera navigation with a 0° telescope
- Depth estimation in 2D images
- Instrument handling without tactile feedback
- Bimanual working, hand-eye coordination and fine motor skills
The traditional trainee-tutor model requires a large number of surgical procedures and is very time consuming. Studies have shown that the amount of learning that can be achieved by observing procedures is limited. Live surgery with all associated stresses is not an optimal learning environment. In addition, it is difficult to objectively evaluate clinical competency on the basis of real surgical procedures, which vary in difficulty. The ever growing pressures in the realm of cost efficiency and short surgery times represent additional complicating factors.

To facilitate the setup of a training environment in which the above skills can be learned, practiced and solidified, KARL STORZ offers you various training workstations. This allows residents, for instance, to learn the endoscopic skills necessary to qualify for working at the surgical table at an early time in their careers.

The centerpiece of these training stations is the TELE PACK X LED system, which combines camera, light source, monitor, and documentation module in a compact and mobile unit. For various surgical techniques (including endoscopic third ventriculostomy and transnasal resection of pituitary tumors), KARL STORZ had the company Pro Delphus develop two different training models with impressive inner designs. They look very realistic and also offer tactile feedback that is very similar to the feedback experienced during real surgery. Each workstation also includes the original instruments required for each technique as used in the OR.

As a result, your facility will benefit from an individually equipped training station for continuous, cross-specialty use in in-house training. The individual training stations are described in more detail on the following pages.
Intracranial Training Model
Head model for practicing intracranial endoscopic procedures

Special features:
- Exact reproduction of the anatomy (particularly the ventricular system)
- Simulation of cerebrospinal fluid circulation and intracranial hemorrhage
- Tactile feedback through special material
- Consumables can be replaced after use or when worn
ETV Kit for Intracranial Endoscopic Procedures

For optimal training with the intracranial training model.
Consisting of the training model, the LOTTA® ventriculoscope, the TELE PACK X LED (incl. camera head and light cable), and four essential instruments for practicing:

- Ventriculostomy
- Septostomy
- Foraminoplasty
- Tumor biopsy and resection
- Cyst evacuation
- Cyst membrane resection

28199 LC  S.I.M.O.N.T. Head Model, cranial
including:
Insert, Head, Power Supply, Base, Joystick, Pump, Head Support

28199 LCA  S.I.M.O.N.T. Insert, cranial, for use with S.I.M.O.N.T. Head Model 28199 LC,
28199 LCA included in 28199 LC

TP 100EN  TELE PACK X LED, endoscopic video unit for use with all KARL STORZ TELECAM
one-chip camera heads and video endoscopes, incl. LED light source similar to Xenon
technology, with integrated digital Image Processing Module, 15" LCD TFT monitor with
LED backlight

28164 LA  LOTTA® Ventriculoscope with HOPKINS® Wide Angle Straight Forward Telescope 6°,
angled eyepiece, outer diameter 6.1 mm, length 18 cm, working channel diameter 2.9 mm,
irrigation/suction channel diameter 1.6 mm, autoclavable,
fiber optic light transmission incorporated,
color code: green

28164 LS  Operating Sheath, graduated, rotating, outer diameter 6.8 mm, working length 13 cm

28164 LD  CLICKLINE Ventriculostomy Forceps, diameter 2 mm,
working length 30 cm, with Handle 30131

28164 LB  CLICKLINE Scissors, pointed, single action jaws, diameter 2 mm,
working length 30 cm, with Handle 30131

28164 LF  CLICKLINE Biopsy Forceps, single action jaws, diameter 2.7 mm,
working length 30 cm, with Handle 30131
Endonasal Training Model

Head model for practicing transnasal approaches to the pituitary gland

Special Features:

- Exact reproduction of the anatomy (particularly the nasal and sphenoidal regions)
- Realistic surgical conditions with filled blood vessels
- Tactile feedback through special material
- Consumables can be replaced after use or when worn
Skull Base Kit for Transnasal Endoscopic Procedures

For optimal training with the endonasal training model. Consisting of the training model, the HOPKINS® straight forward telescope, the TELE PACK X LED (incl. camera head and light cable), and four essential instruments for training the following:

- Endoscopic transnasal-transsphenoidal pituitary surgery
- Microadenoma and macroadenoma removal
- Treatment of craniopharyngioma
- Treatment of clival chordoma

28199 LS  S.I.M.O.N.T. Head Model, for otorhino and skull base including:
            Insert, Head, Power Supply, Base, Joystick, Pump, Head Support

28199 LSA  S.I.M.O.N.T. Insert, for otorhino and skull base, for use with S.I.M.O.N.T. Head Model 28199 LS, 28199 LSA included in 28199 LS

TP 100EN  TELE PACK X LED, endoscopic video unit for use with all KARL STORZ TELECAM one-chip camera heads and video endoscopes, incl. LED light source similar to Xenon technology, with integrated digital Image Processing Module, 15" LCD TFT monitor with LED backlight

28132 AA  HOPKINS® Straight Forward Telescope 0°, enlarged view, diameter 4 mm, length 18 cm, autoclavable, fiber optic light transmission incorporated, color code: green

449002  HEYMANN Nasal Scissors, medium, (standard model), working length 9.5 cm

28164 DS  Dissector, sharp, tip angled 15°, with round handle, size 2 mm, length 25 cm

28164 MKB  KERRISON Bone Punch, detachable, rigid, upbiting 60° forward, size 2 mm, working length 17 cm

456001  BLAKESLEY Nasal Forceps, straight, size 1, working length 11 cm
KARL STORZ TELE PACK X LED
Compact, transportable, universal

TP 100EN

**TELE PACK X LED**, endoscopic video unit for use with all KARL STORZ TELECAM one-chip camera heads and video endoscopes, incl. LED light source similar to Xenon technology, with integrated digital Image Processing Module, 15" LCD TFT monitor with LED backlight, USB/SD memory module, color systems PAL/NTSC, power supply 100-240 VAC, 50/60 Hz including:
- **USB Silicone Keyboard**, with touchpad, US character set
- **USB Flash Drive**, 8 GB
- **Mains Cord**
- **Mains Cord**, US version
Notes

It is recommended to check the suitability of the product for the intended procedure prior to use.