D-Port®
A new reusable platform for transanal laparoscopic surgery
Surgery of the Rectum can be performed by Laparotomy, Conventional Multi-Trocar Laparoscopy, Single-Incision Laparoscopy and TransAnal Laparoscopy.

TransAnal Laparoscopy is realized with the introduction of the port-device and laparoscopic instruments through the anus.

Benign lesions as well as early malignant lesions of the rectum with an endoluminal location can be removed. Areas in the low, middle and high rectum can be resected.

The resection of the rectum with the Total Mesorectal Excision (TME) can be performed transanally, going from the anus cephalad into the abdomen. The specimen is finally removed from the anus, avoiding any mini-laparotomy into the abdomen and the anastomosis is performed from down-to-up.

TransAnal Laparoscopy can also be applied to solve some complications after resection of the rectum. Perioperative leak and bleeding, early postoperative leak and bleeding and also late colorectal fistula can be treated through the anus with endoluminal suturing and healing of the defect.

All these TransAnal Surgeries need appropriate and dedicated operative platforms, consisting of transanal port-devices and laparoscopic instruments. Due to the unique anal entry, these laparoscopic instruments need a particular shape, offering the possibility to operate without any clashing of the instruments' tips and any conflict between the surgeons' hands.

A new and reusable port, named D-PORT, has been invented for the TransAnal Laparoscopy and a new platform for this surgery has been created.

Giovanni Dapri, MD PhD
Professor of Surgery
D-PORT

The TransAnal Port is reusable, permitting multiple use and reduction of the cost per procedure, due to the nature of the material adopted.

The D-PORT is formed by three main parts:

Tube and Obturator:

DAPRI Operating Rectoscope Tube, Ø 30 mm, length 7.5 cm, two LUER-Lock connectors for gas-insufflation and smoke evacuation.

This diameter has been chosen to facilitate the introduction of the D-PORT into the anal margin, without any type of anal dilatation. Furthermore, it has a diameter large enough to use a 10 mm scope and two 5 mm instruments, avoiding any type of instrument conflict during dissection, resection and suturing.

The D-PORT permits both the insufflation of the CO₂ and the simultaneous evacuation of the smoke created by dissection. Continuous insufflation with the high-flow insufflators (ENDOFLATOR® 40 / ENDOFLATOR® 50) in parallel with smoke evacuation (S-PILOT™) creates a stable pneumorectum and ensures good visualization. The port ring offers 4 oval holes, which permit the fixation of the D-PORT to the skin during the different steps of the procedure. Finally, inside the tube the four cardinal points are marked, helping the surgeon with orientation during the dissection and suture.

Sealing Cap:

The DAPRI Sealing Cap is 1 cm thick, made of silicone, and has 3 instrument ports on the same horizontal line. The cap permits free movement of the instruments outside the tube.

The three orifices are 6 mm, 11 mm, 6 mm, and they are located in this order to permit the introduction of the 10 mm scope in the middle and the two ancillary 5 mm tools on both sides. This disposition permits one of the principles of conventional laparoscopy to be respected, which is the optical system in the center as the bisector of the working triangulation formed by two ancillary tools. Moreover, the central orifice of the sealing cap also allows the introduction of a linear stapler whereby the valve insert is removed to allow direct introduction of the stapler.

Link: “D-PORT insertion”
TransAnal Platform

DAPRI D-PORT (Figures 1, 2)
Telescope: 10 mm, 30°, rigid and regular length (Figure 3)
DAPRI monocurved grasping forceps (Figure 4)
DAPRI monocurved coagulating hook (Figure 5)
DAPRI monocurved needle holder (Figure 6)
DAPRI monocurved scissors (Figure 7)
DAPRI monocurved ROBI® grasping forceps (Figure 8)
DAPRI monocurved ROBI® scissors (Figure 9)
DAPRI monocurved anvil grasping forceps (Figure 10)
Monocurved suction and irrigation cannula (Figure 11)
Overview and Examples of Application

**Total Mesorectal Excision (TME) from Down-To-Up, with ColoRectal Anastomosis**

Fig. 1 a, b: The D-PORT is introduced into the anus and fixed to the skin by 4 sutures. A 10 mm, 30°, rigid and regular length scope is used, besides the monocurved grasping forceps (introduced at 9 o’clock position), and the monocurved needle holder (introduced at 3 o’clock position)

Fig. 2: An intraluminal suture is performed a few centimeters under the lesion.

Fig. 3: The rectal wall is perforated in full thickness method, using the monocurved coagulating hook (introduced at the 3 o’clock position)
Fig. 4 a, b, c, d: The dissection is started posteriorly, respecting the presacral fascia, then laterally and finally anteriorly, respecting the prostate (male) or the vagina (female), opening the Pouch of Douglas in the abdomen at the end.
**Fig. 5 a:** The resectate is removed transanally; the anvil of the stapler is introduced into the colon and pushed into the pelvis.

**Fig. 5 b:** The rectal stump opening is closed by a purse-string suture using the monocurved needle holder and the monocurved grasping forceps.

**Fig. 5 c:** The anvil is held by the monocurved anvil grasping forceps during closure of the purse-string suture.

**Fig. 5 d:** The anvil is attached to the circular stapler using the monocurved grasping forceps and anastomosis is performed under laparoscopic view.

Link: “Transanal Total Mesorectal Excision (TME) with colorectal anastomosis”
Total Mesorectal Excision (TME) from Down-To-Up, with ColoAnal Anastomosis

Fig. 1 a, b: The D-PORT, the scope, the monocurved grasping forceps, and the monocurved coagulating hook are introduced, after having incised the anal mucosa and closed the anal stump.

Fig. 2 a, b, c, d: The TME is started posteriorly, opening the rectosacral ligament and respecting the upper presacral fascia. It then continues laterally and anteriorly, respecting the prostate (male) or the vagina (female), opening the Pouch of Douglas in the abdomen at the end.
Fig. 3 a, b: The resectate is removed transanally and the coloanal anastomosis is performed
TransAnal Repair of Immediate ColoRectal Leak after Laparoscopic Resection of the Rectum

Fig. 1: Abdominal laparoscopic evidence of colorectal leak into the pelvis (bubbles)
Fig. 2 a: Endoluminal suture
Fig. 2 b: Surgeon’s extracorporeal ergonomics

Link: “Transanal repair of immediate colorectal leak after laparoscopic resection of the rectum”
TransAnal Repair of Late ColoRectal Fistula after Laparoscopic Resection of the Rectum

Fig. 1: Endoluminal exposure of the fistula orifice at the level of the circular mechanical colorectal anastomosis

Fig. 2: Endoluminal suture

Fig. 3: Final view

Link: “Transanal repair of late colorectal fistula after laparoscopic resection of the rectum”
TransAnal Mucosectomy

Fig. 1: Endoluminal exposure of the circular benign stenosis at 2.5 cm from the anal margin

Fig. 2: Mucosectomy performed by monocurved coagulating hook

Fig. 3: Endoluminal suture

Fig. 4: Final view

Link: “Transanal total mucosectomy (for benign stenosis)”
TransAnal Platform

24944 TS  **D-PORT**, DAPRI Operating Rectoscope System
           including:
           DAPRI Operating Rectoscope Tube
           Obturator
           Seal

24944 SA  **Seal**, complete for DAPRI Operating Rectoscope Tube,
           3x access 5 mm, 10 mm and/or 13-15 mm
           including:
           DAPRI Sealing Cap
           3x A4 Reducer, 13/5 mm and 13/3 mm
           A5 Reducer, 3/10 mm
           Valve Seal, size 5 mm, package of 10
           Valve Seal, size 10 mm, package of 10

26003 BA  **HOPKINS® Forward-Oblique Telescope 30°**,
           enlarged view, diameter 10 mm, length 31 cm,
           autoclavable, fiber optic light transmission incorporated,
           color code: red
23251 ONG  **CLICKLINE Grasping Forceps**, non-rotating, dismantling, insulated, without connector pin for unipolar coagulation, with Luer-Lock irrigation connector for cleaning, single action jaws, DAPRI sheath curve, size 5 mm including:  
**Plastic Handle**, without ratchet, with larger contact area at the finger ring, with 4 locking positions, with connector pin for unipolar coagulation  
**Outer Sheath**, with working insert

23778 CLG  **Coagulation and Dissecting Electrode**, without suction channel, insulated sheath, L-shaped tip, DAPRI sheath curve, size 5 mm

23178 KAR  **KOH Macro Needle Holder, dismantling**, single action jaws, straight jaws, with tungsten carbide insert, with ergonomic handle, axial, with disengageable ratchet, ratchet position right, DAPRI sheath curve, size 5 mm including:  
**Outer Sheath with Working Insert Handle**, axial for use with suture material size 0/0 to 7/0
23251 MSG  **CLICKLINE METZENBAUM Scissors**, non-rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUR- Lock Irrigation connector for cleaning, double action jaws, curved, DAPRI sheath curve, size 5 mm
including:
**Plastic Handle**, non-rotating, without ratchet, with larger contact area at the finger ring, with 4 locking positions
**Outer Sheath with Working Insert**

38752 ONG  **ROBI® Grasping Forceps**, CLERMONT-FERRAND model, dismantling, with connector pin for bipolar coagulation, double action jaws, fenestrated, with especially fine atraumatic serration, DAPRI sheath curve, size 5 mm, color code: bright blue
including:
**ROBI® Plastic Handle**, without ratchet
**ROBI® Outer Sheath with Forceps Insert**

38752 MWG  **ROBI® METZENBAUM Scissors**, CLERMONT-FERRAND model, dismantling, with connector pin for bipolar coagulation, double action jaws, curved slender scissor blades, DAPRI sheath curve, size 5 mm
including:
**ROBI® Plastic Handle**, without ratchet
**ROBI® Outer Sheath with Scissors Insert**
23137 AVG **CLICKLINE Grasping Forceps**, non-rotating, dismantling, insulated, without connector pin for unipolar coagulation, with Luer-Lock irrigation connector for cleaning, double action jaws, for stapler pressure plates, DAPRI sheath curve, size 5 mm, length 36 cm
including:
MOURET **Metal Handle**, with hemostat style ratchet, with 4 locking positions
**Outer Sheath with Working Insert**

23460 LHG **Suction and Irrigation Cannula**, with lateral holes, bended, size 5 mm

30805 **Handle**, with two-way stopcock for suction and irrigation, **autoclavable**, for use with suction and irrigation tubes, size 5 mm
Material supporting the TransAnal Platform:

S-PILOT™ in combination with the ENDOFLATOR® 40 and ENDOFLATOR® 50

As smoke evacuation often leads to a loss in pressure, a reliable unit is required to restore gas loss safely and securely and to ensure that a stable cavity is maintained.

The new KARL STORZ insufflators – ENDOFLATOR® 40 (UI 400) and ENDOFLATOR® 50 (UI 500) – offer this reliability.

A new control concept in conjunction with an extremely high flow rate paves the way for smoke evacuation that functions perfectly. The sensitive unit algorithm immediately detects and reacts to any loss of pressure caused by suction. Pressure is restored with careful monitoring of the insufflation process.

The high-flow accessories such as the HICAP® trocars from KARL STORZ can easily achieve a maximum flow of 40 or 50 l/min. However, care should be taken to ensure that the underpressure in the suction container is not greater than 0.3 bar in order to prevent the cavity from collapsing.

A max 50 l/min in the high-flow mode and an integrated gas heater makes the ENDOFLATOR® 50 the insufflator of choice. During longer interventions, gas in the cavity is constantly being replaced due to smoke evacuation and the patient cools down quickly. The ENDOFLATOR® 50 and its heatable tubing set prevent this effect. Furthermore, the heated gas greatly minimizes telescope fogging.

With their CF classification, the ENDOFLATOR® 40 and ENDOFLATOR® 50 in combination with the equally CF-classified S-PILOT™ offers a multitude of potential application possibilities.

UP 501 S1  
**S-PILOT™**, set incl. footswitch  
including:  
One-Pedal Footswitch  
Tubing Set Suction, sterile,  
for single use, package of 5  
SCB Connecting Cable, length 100 cm

UI 400  
**ENDOFLATOR® 40 SCB**,  
with integrated SCB module,  
power supply 100-240 VAC, 50/60 Hz,  
System requirements for use with SCB-PC:  
SCB-R-UI-software-release V03.17.00.01 or higher

UI 500  
**ENDOFLATOR® 50 SCB**,  
with integrated SCB module,  
power supply 100-240 VAC, 50/60 Hz,  
System requirements for use with SCB-PC:  
SCB-R-UI-software-release V03.17.00.01 or higher
Notes

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