PRESS RELEASE

Future advances in minimally invasive surgery

LESS – is more!

Prague, 18 June 2009. Minimally invasive procedures have dramatically changed the face of surgery in recent years. By offering safer and gentler surgical procedures for patients, laparoscopy has become the gold standard for many interventions. Now, *LESS* – Laparo-Endoscopic Single-Site **– surgery takes minimally invasive surgery (MIS) to the next level. Compared with conventional laparoscopy that generally requires 3 to 5 incisions, in *LESS* surgery, the surgeon performs complex procedures through only one incision. If possible, the incision is made in the umbilicus so that the postoperative scar is hidden and virtually invisible. Crucial for the development of the new technique are innovative access systems like the TriPort from Olympus. The TriPort is a multi-instrument access port that allows up to three instruments to be inserted simultaneously through a single incision. This year Olympus will release the QuadPort that has an additional port, thus offering surgeons even more operational versatility. The number of *LESS* surgical operations is increasing daily and, so far, more than two thousand *LESS* procedures have been performed successfully in urology, general surgery and gynaecology. At the 17th Congress of the European Association for Endoscopic Surgery (EAES) in Prague, renowned general surgeons convened to discuss the status quo of the *LESS* method in gastrointestinal surgery and its promising future.**

Conventional laparoscopy requires separate access for each instrument, resulting in multiple incisions to the abdominal wall. The TriPort allows

three instruments to be passed into the abdomen simultaneously via one small (10–25-mm) incision, usually placed in the umbilicus. The QuadPort (to be launched soon) provides a multichannel access for four instruments. By reducing the number of incisions in the abdominal wall, and confining the incision to the umbilicus, the surgeon can carry out complex operations leaving almost no trace that surgery was performed.

Long-term studies are essential to explore patient benefits, such as a more rapid healing phase and less pain, in addition to improved cosmesis. In this context, Olympus supports clinicians in evaluating this new technique. Hospitals are also anticipating the advantages of *LESS* surgery. A gentler, less traumatic procedure would not only lower the risk of postoperative infections, but could potentially reduce the use of pain medication and shorten hospital stays.

TriPort and QuadPort feature flexible designs

With the design of the TriPort and QuadPort, an entirely new approach has been taken to enable safer and more effective *LESS* surgery. Only a small incision of 10–25 mm is needed to insert the TriPort through the abdominal wall; the incision for the QuadPort may extend from 25 to 50 mm. The TriPort is designed for standard laparoscopies, whilst the QuadPort is constructed for more complicated types of surgical procedure that require large amounts of tissue to be removed and employ up to four instruments.

While it is arguable that *LESS* surgery is more difficult to perform than the more invasive standard laparoscopic approach, the unique design of the TriPort and QuadPort offer the easiest and most effective way of performing this novel technique. In general, it allows the surgeon the greatest range of motion and the best handling of instruments. More specifically, the flexible design of the TriPort and QuadPort self-adjusts to any abdominal wall thickness up to 10 cm and offers a powerful retracting force to the abdominal wall. This enhances the gas-tight seal, minimises

the incision size and maximises access to provide greater control of the instrumentation. The TriPort features three inlets: two for instruments with diameters of up to 5 mm and one for instruments with diameters of up to 12 mm. The QuadPort is additionally equipped with a 15-mm inlet for larger suturing devices. Two further connectors enable insufflation and smoke evacuation during the surgery. The upper valve of the TriPort and QuadPort are detachable for tissue removal. Standard laparoscopic instruments and optics are also appropriate for *LESS* surgery. The EndoEYE video laparoscope from Olympus is a particularly suitable instrument since its deflectable tip allows the surgeon to easily change the direction of view, whilst its streamlined configuration provides more space and minimises potential collisions of the instruments outside the patient's body.
In addition, Olympus is currently developing further instruments especially for *LESS* surgery to give the surgeon even greater freedom of movement and ergonomics. These include hand instruments with pre-bent shafts that allow more space and manoeuvrability to achieve better triangulation.

LESS surgery crosses borders and a vast application spectrum

In the past two years, *LESS* surgery has inspired leading surgeons from the US and Europe, and is increasingly used in new and more demanding surgical applications. *LESS* surgery is stimulating further developments in laparoscopy.[1] Innovative equipment, such as the TriPort and the QuadPort, are playing key roles in the further development of minimally invasive surgery. Experts forecast that *LESS* surgery will be used across a broad spectrum of applications in general surgery, but also in other disciplines like urology or gynaecology. Especially gastrointestinal surgery offers a wide range of surgical indications that are well suited for the *LESS* method. In the field of general surgery, laparoscopic experts have already gained extensive experience with this new technique. First reports on *LESS* cholecystectomy date as far back as 1997.[2] Since then, the *LESS* technique has been applied to a large number of gastrointestinal

procedures, including appendectomy[3], right hemicolectomy[4], sigmoidectomy[5] and many others.

With *LESS* surgery receiving more and more attention, various clinical evaluations are planned to help define the future role of *LESS* procedures in minimally invasive surgery.

---

[1] Raman JD et al., Single-incision laparoscopic surgery: initial urological experience and comparison with natural-orifice transluminal endoscopic surgery. BJU Int. 2008 Jun.; 101(12): 1493–6.
[2] Navarra G et al., One-wound laparoscopic cholecystectomy. Br J Surg 1997; 84: 695.
[3] Canes D et al., Eur Urol. 2008 Nov.; 54(5): 1020–9.
[4] Bucher P et al., Int J Colorectal Dis. 2008 Oct.; 23(10): 1013–6. Epub 2008 Jul 8
[5] Bucher P et al., Colorectal Dis. 2009 Mar 6.

For questions or further information, please contact:

pluspool • Unterweger Healthcare Communication

Carmen Krüger	Phone: +49 (0)40 3554 3626
Ballindamm 26	Fax: +49 (0)40 3554 3680
20095 Hamburg	carmen.krueger@plus-pool.de

Olympus Medical Systems Europa GmbH

Niek Beukema	Phone: +49 (0)40 237 730
Wendenstrasse 14 – 18	Fax: +49 (0)40 237 735 731
20097 Hamburg	niek.beukema@olympus-europa.com