



MILOS technique

Mini Less Open Sublay Technique

MILOS

Mini Less Open Sublay Technique for the treatment of incisional hernias / umbilical hernias



Dr. med. Wolfgang Reinpold

Idea provider for the development of the EndoTorch light tube for the MILOS technique and opinion-leader in the field of hernia surgery. Dr. med. Wolfgang Reinpold is also Past-President of the German Hernia Society.

He is Chief Physician and Director of the Hamburg Hernia Center, Reference center for hernia surgery of the German Society for Surgery and the German Hernia Society.

Research focuses:

■ **Prevention and treatment of chronic pain after hernia operations**

■ **Development of minimally invasive techniques**

for extraperitoneal implantation of plastic meshes in surgery for abdominal and umbilical hernias.

In operations on abdominal-wall and umbilical hernias, plastic meshes are inserted by means of tiny incisions outside the abdominal cavity and not as otherwise usual in the abdominal cavity (risk of adhesions and damage to the intestine). These techniques permit implantation of large meshes without traumatic and painful fixation.

■ **Training and advanced training in hernia surgery**

Memberships include:

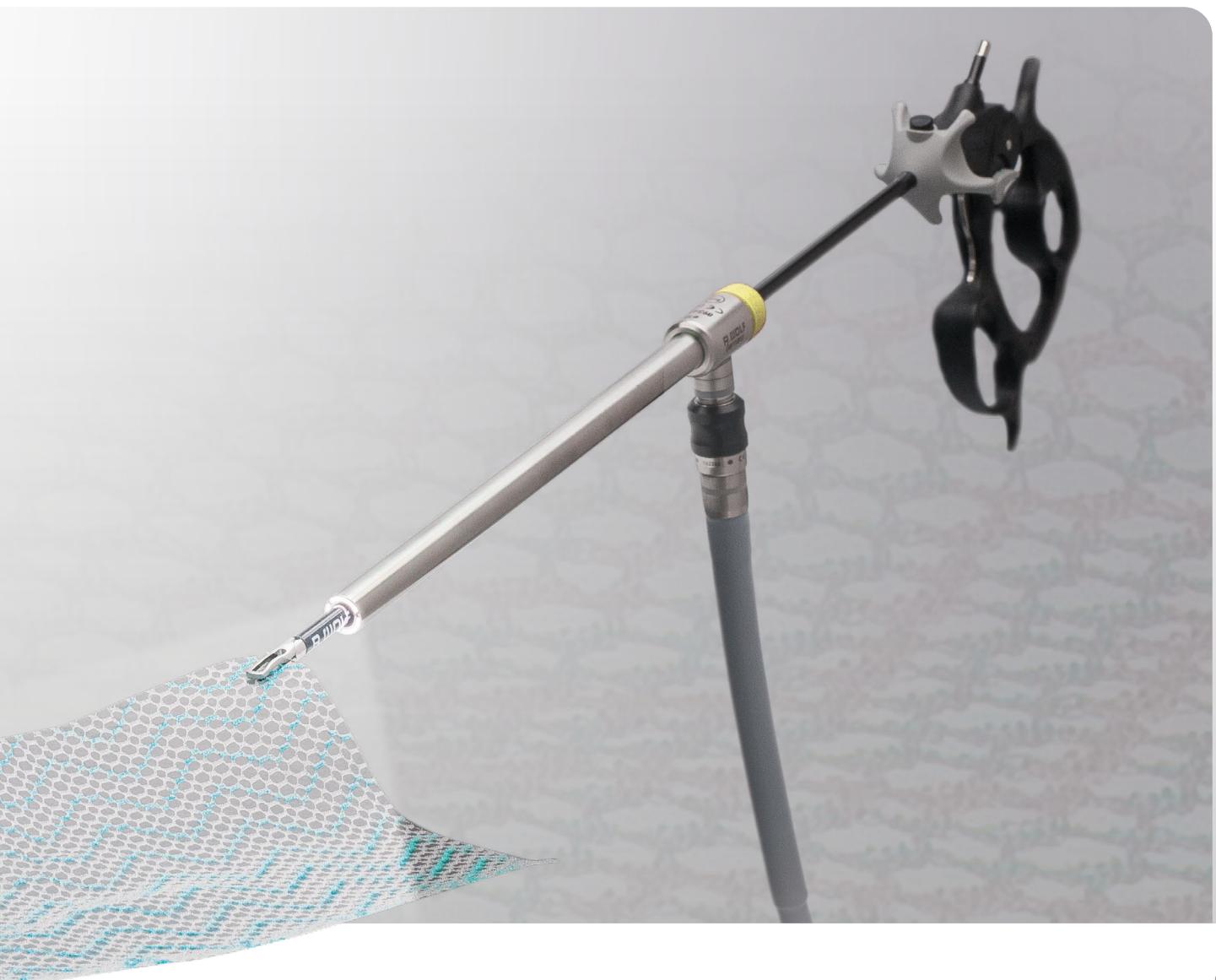
- European Hernia Society
- American Hernia Society
- Furthermore, Dr. Reinpold is represented in other national and international surgical bodies and working groups.



Light Tube for the MILOS Technique

The **EndoTorch** light tube was specifically developed for the MILOS technique in cooperation with Wolfgang Reinbold MD and offers optimal light conditions for the best possible overview. It is used for operations including laparoscopically assisted interventions as an external lighting source in combination with a laparoscopic 3.5 mm or 5 mm instrument.

- Light tube Ø 10 mm with instrument channel Ø 5 mm, total length 200 mm
- Compatible with 3.5 mm or 5 mm ERAGONmodular Instruments
- Compatible with 5 mm fiber light cable (e.g. fiber light cable fusion)



Surgical technique

Surgical technique MILOS

(Mini Less Open Sublay)

or >

(endoscopic assisted mini-open transhernial sublay repair)

Indication:

Incisional hernia / Umbilical hernia

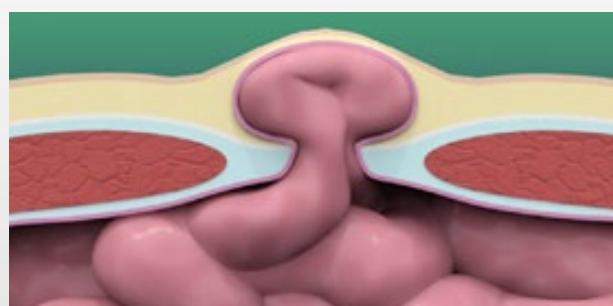
(in the example below the umbilicus)



1.

Skin incision 2 to max. 5 cm above the hernia opening.

Length of incision approx. 2 cm.



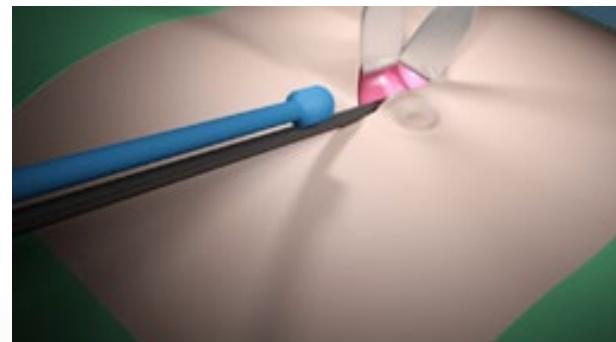
2.

Visualization of the hernia defect and dissection of the hernia sac.



3.

Optional: Conservative opening of the hernia sac to probe the abdominal cavity is recommended. If necessary, an open or laparoscopic adhesiolysis is carried out.



4.

The peritoneum is detached circularly approx. 2 cm from the linea alba and the posterior lamina of the rectus sheath.

5.

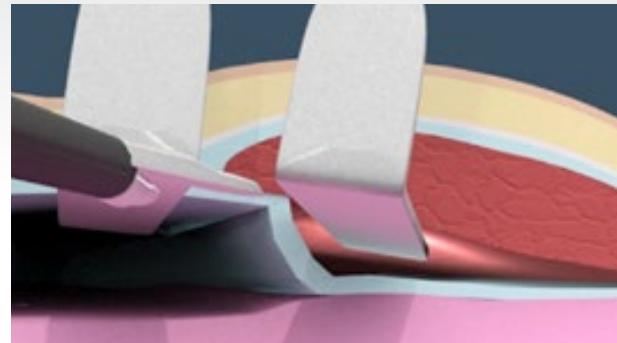
The posterior lamina of the rectus sheath is opened longitudinally on both sides about 1 cm laterally to the medial rectus muscle boundary.

6.

Using a long narrow hook and endoscopic visualization, the posterior lamina of the rectus sheath is detached from the rectus musculature using laparoscopic instruments and the light tube for the MILOS technique. The median endoscopically assisted dissection is then carried out preperitoneally: The peritoneum is detached from the linea alba.

7.

Further transperitoneal total extraperitoneal dissection is carried out either under direct vision with laparoscopic instruments and the light tube for the MILOS technique or endoscopically assisted.

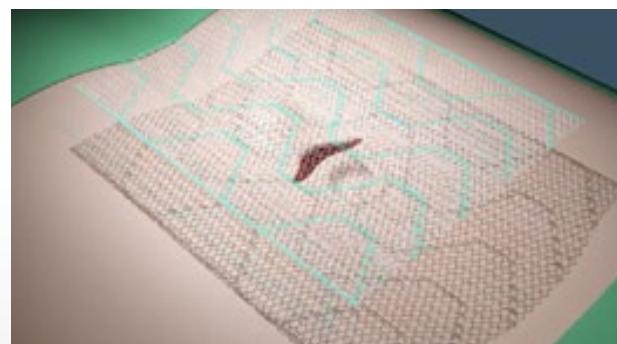


8.

The posterior lamina of the rectus sheath generally remains open with median completely closed peritoneum.

9.

Insertion and spreading of the mesh implant: insertion into the extraperitoneal space as a double roll and without skin contact.



10.

Low-tension, anatomically contoured closure of hernia gap using the mesh implant.

11.

Fixation of the mesh implant is only necessary if the hernia gap cannot be closed completely and bridging of the hernia defect is necessary.

3.5 mm Set

1x	Telescope 30°, Ø 10 mm WL 305 mm	8934462
1x	Light tube for MILOS technique	893420
2x	Trocarsleeve straight, cap. 3.5 mm, WL 100 mm	8903014
2x	Trocarsleeve tip, dull, sz 3.5 mm, WL 169 m	8903103
1x	Dissection Forceps, mono, Ø 3.5 mm, bndl.	83912227
1x	Metzenbaum Scissors, mono, Ø 3.5 mm, bndl.	83912157
2x	Atraumatic Grasping Forceps, Ø 3.5 mm, bndl.	83912087
1x	Hook Electrode, mono, Ø 3.5 mm, WL 310 mm	8379452
1x	Needle Holder, Ø 3.5 mm, bndl.	8391501

5.0 mm Set

1x	Telescope 30°, Ø 10 mm WL 305 mm	8934462
1x	Light tube for MILOS technique	893420
2x	Trocarsleeve straight cap. 5.5 mm, WL 100 mm	8921.014
2x	Trocarsleeve tip, dull, sz 5.5 mm, WL 169 m	8921.103
1x	Dissection Forceps, mono, Ø 5.0 mm, bndl.	83932407
1x	Metzenbaum Scissors, mono, Ø 5.0 mm, bndl.	83930417
2x	Atraumatic Grasping Forceps, Ø 5.0 mm, bndl.	83931817
1x	Hook Electrode, mono, Ø 5.0 mm, WL 340 mm	8383.423
1x	Needle Holder, Ø 5.0 mm, bndl.	8393.502

