KARL STORZ – Solutions for Breast Surgery
Ductoscopes for endoscopic examination of the lactiferous ducts

KARL STORZ offers ductoscopes with or without working channels. The distal part of both ductoscopes is made of nitinol, which increases the flexibility of the ductoscopes and minimizes the risk of fracture.

With a diameter of only 0.8 mm and a working length of 9 cm, the diagnostic ductoscope enables inspection of the lactiferous ducts.

The therapeutic ductoscope, with its working channel of 12 cm and diameter of 1.3 mm with an integrated working channel (0.6 mm), also allows the possibility of biopsy using a basket or to place a marking wire on pathological tissue in order to perform a selective open biopsy later.

To ensure optimal visualization of the lactiferous duct system, normal saline solution is continuously injected via the integrated irrigation channel of the diagnostic or therapeutic ductoscope.
Intraoperative images with the ductoscope*

Fig. 1: Normal lactiferous duct, lustrous white, smooth surface

Fig. 2: Lustrous pinky-white duct with smooth wall and peripheral bifurcation

Fig. 3: Lustrous pinky-white duct with smooth wall and peripherally polypous, reddish-yellow proliferation with fissured surface, without any atypical bleeding (histology: intraductal papilloma)

Fig. 4: Lustrous pinky-white duct with smooth wall and atypical bleeding, most likely of iatrogenic origin (histology: no pathologic intraductal findings)

Advantages:

- Visualization of intraductal changes
- Biopsy under endoscopic control
- Optimal view of the lactiferous duct system thanks to the integrated irrigation channel (normal saline solution)
- Good image quality with small diameter (0.8-1.3 mm)
- Autoclavable

* Source of images and text: Duktoskopie; Lehratlas zur endoskopischen Milchgangsspiegelung (Mammary Ductoscopy Teaching Manual); Prof. Dr. med. Ralf Ohlinger, Dr. med. Susanne Grunwald; 2009; page 49, Fig. 5.2a, page 51, Figs. 5.6.a and Fig. 5.8, page 54, Fig. 5.14.
Ductoscopes for endoscopic examination of the lactiferous ducts

11521 A  **Miniature Straight Forward Telescope 0°**, semiflexible, autoclavable, NITI, with integrated irrigation channel, with remote eyepiece, fiber optic light transmission incorporated

- outer diameter: 0.8 mm
- irrigation channel diameter: 0.25 mm
- working length: 9 cm

11522 A  **Miniature Straight Forward Telescope 0°**, semirigid, autoclavable, NITI, with remote eyepiece, with integrated irrigation channel and working channel, fiber optic light transmission incorporated

- outer diameter: 1.3 mm
- irrigation channel diameter: 0.25 mm
- working channel diameter: 0.6 mm
- working length: 12 cm
Recommended accessories

11522 S  **Examination Sheath**, with blunt obturator, working length 5 cm, for use with Miniature Straight Forward Telescopes 11521 A and 11522 A

11522 SL **Examination Sheath**, with blunt obturator, working length 9 cm, for use with Miniature Straight Forward Telescopes 11521 A and 11522 A

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It is recommended to check the suitability of the product for the intended procedure prior to use.
DELMAR Set for breast augmentation via the axillary approach

The endoscopically assisted axillary approach is a first-line surgical choice for breast augmentation as the scar is mostly concealed by the arm*. The axillary approach also allows the use of larger implants in cases where the submammary approach was previously used. Retro glandular, subfascial or retropectoral implant placements are all feasible.

For optimal breast augmentation via the axillary route, KARL STORZ now offers the DELMAR set. The set consists of a HOPKINS® 10 mm telescope with 0° angle of view, an endo-dissector (for use with the telescope) for unipolar dissection and coagulation for bloodless pocket dissection as well as a retractor with two integrated channels for smoke evacuation.

Advantages:

- Optimal visualization under endoscopic control during dissection thanks to retractor with integrated channels for smoke evacuation
- Precise preparation according to the prosthesis shape under endoscopic control
- Unipolar dissection and coagulation of tissue under visual control
- Creation of a bloodless pocket, without hematomas for optimal implant placement

DELMAR Set
for breast augmentation via the axillary approach

50250 AA  **HOPKINS® Straight Forward Telescope 0°**, enlarged view, diameter 10 mm, length 31 cm, **autoclavable**, fiber optic light transmission incorporated, color code: green

50251 M  **DELMAR Unipolar Endo-Dissector**, size 20 mm, working length 28 cm, with connector pin for unipolar coagulation including:
- Handle
- Sheath

50251 ML  **Unipolar Coagulation Electrode**, package of 5, for use with Unipolar Endo-Dissector 50251 M

50251 MR  **Retractor**, for creation of an operation pocket, with handle for single hand use, width of spatula 30 mm, length 14 cm, with two lateral suction channels for smoke evacuation
Illuminated optical retractors – TÜBINGEN Model, for breast augmentation and breast reconstruction

When using conventional retractors, the opened surgical field is typically very dark, which makes it very difficult to work with precision. The new retractors now offer optimal illumination when performing breast reconstruction and augmentation via the axillary, inframammary, or submammary approach. They not only hold the surgical field open but also ensure excellent illumination and, if desired, endoscopic visualization via a monitor. The latter can enhance ergonomics in surgery.

Breast augmentation via the inframammary approach

The inframammary approach is the most commonly used approach in breast augmentation. The surgeon places a several-centimeter-long incision in the region of the future inframammary fold.

The implant pocket is then prepared either in the subglandular space (below the breast gland) or the subpectoral space (below the breast muscle).

The inframammary approach offers surgeons a very good direct view, which means that an illuminated retractor may be sufficient. The retractor can then be used with or without an endoscope.

Breast augmentation via the transaxillary approach

The TÜBINGEN retractor is inserted through an incision in the axilla. It is used for the direct visualization of the surgical field so that a pocket for the later implant can be prepared endoscopically via the axilla. The transaxillary approach only creates a small scar that is usually covered by the arm.
Lifting the latissimus dorsi muscle in breast reconstruction

The TÜBINGEN retractor for lifting the latissimus dorsi muscle is inserted through an incision in the axilla. Via the axilla, the latissimus dorsi is then dissected and detached.

In the next step, the pedicled muscle flap is transferred ventrally while maintaining the blood supply. This technique does not require free tissue transfer with vascular anastomosis.

The surrounding muscle groups can compensate for the partial removal of the latissimus dorsi muscle, and patients often do not suffer from any significant complaints.

However, patients should have sufficient available skin to ensure that the defect can be covered. With the TÜBINGEN retractor and the associated endoscopic/endoscope-assisted procedure, breast reconstruction with the latissimus dorsi flap can be performed leaving only a short and hardly noticeable scar in the axillary region.

Advantages:

- The retractor is available in two different blade sizes:
  - 30 mm x 15 cm for the transaxillary and inframammary approaches
  - 40 mm x 20 cm for latissimus dorsi flap procedure
- Direct visualization of the individual tissue layers with an endoscope (optional)
- Homogenous illumination of the surgical field
- Good visualization during dissection at all times thanks to two channels for smoke evacuation integrated in the blade
- Adjustable handle allows ergonomic work during breast augmentation/reconstruction
Illuminated Retractors
for breast augmentation and breast reconstruction – TÜBINGEN model

Recommended setup for the inframammary and axillary approaches:

50251 RS  Illuminated Retractor, TÜBINGEN model, width of blade 30 mm, fiber optic light carrier integrated in blade, length 15 cm, for use with HOPKINS® Telescope 30° 50230 BA including: Handle

Recommended setup for the latissimus dorsi flap procedure:

50251 RB  Illuminated Retractor, TÜBINGEN model, width of blade 40 mm, fiber optic light carrier integrated in blade, length 20 cm, for use with HOPKINS® Telescope 30° 26105 BA including: Handle
Optional Accessories
for work under endoscopic control

for use with 50251 RS:

50230 BA  HOPKINS® Forward-Oblique Telescope 30°,
diameter 4 mm, length 18 cm, autoclavable,
fiber optic light transmission incorporated,
color code: red

For use with 50251 RB:

26105 BA  HOPKINS® Forward-Oblique Telescope 30°,
diameter 4 mm, length 30 cm, autoclavable,
fiber optic light transmission incorporated,
color code: red

Required telescope sheath for use of the retractors with a telescope:

50200 LS  Telescope Sheath, for 50200 L/LM/LL, only

Recommended fiber optic light cable:

495 NCS  Fiber Optic Light Cable, highly heat resistant,
diameter 4.8 mm, length 250 cm