Second AIIMS Surgical Week

Inaugural Conference of Society of Endoscopic and Laparoscopic Surgeons of India (SELSI)
International Minimal Access Surgery Conference,
CME cum Live Workshop

ENDOSURG 2008

Thursday, 27th March to Sunday, 30th March 2008
All India Institute of Medical Sciences, New Delhi.

Evolution of TEM towards worldwide standart in local rectal surgery

Gerhard F. Buess
University of Tuebingen

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History of TEM

- 1980: start of technological Development at the University of Cologne
- 1981-1983: stepwise technological development and experimental development and evaluation of the procedure
- 1983-85: clinical trial in Cologne
- 1985-1989: clinical trial in Mainz
- 1989-1997: clinical trial in Tuebingen start cancer surgery
- 1998-2005: trial in Munich and Muellheim

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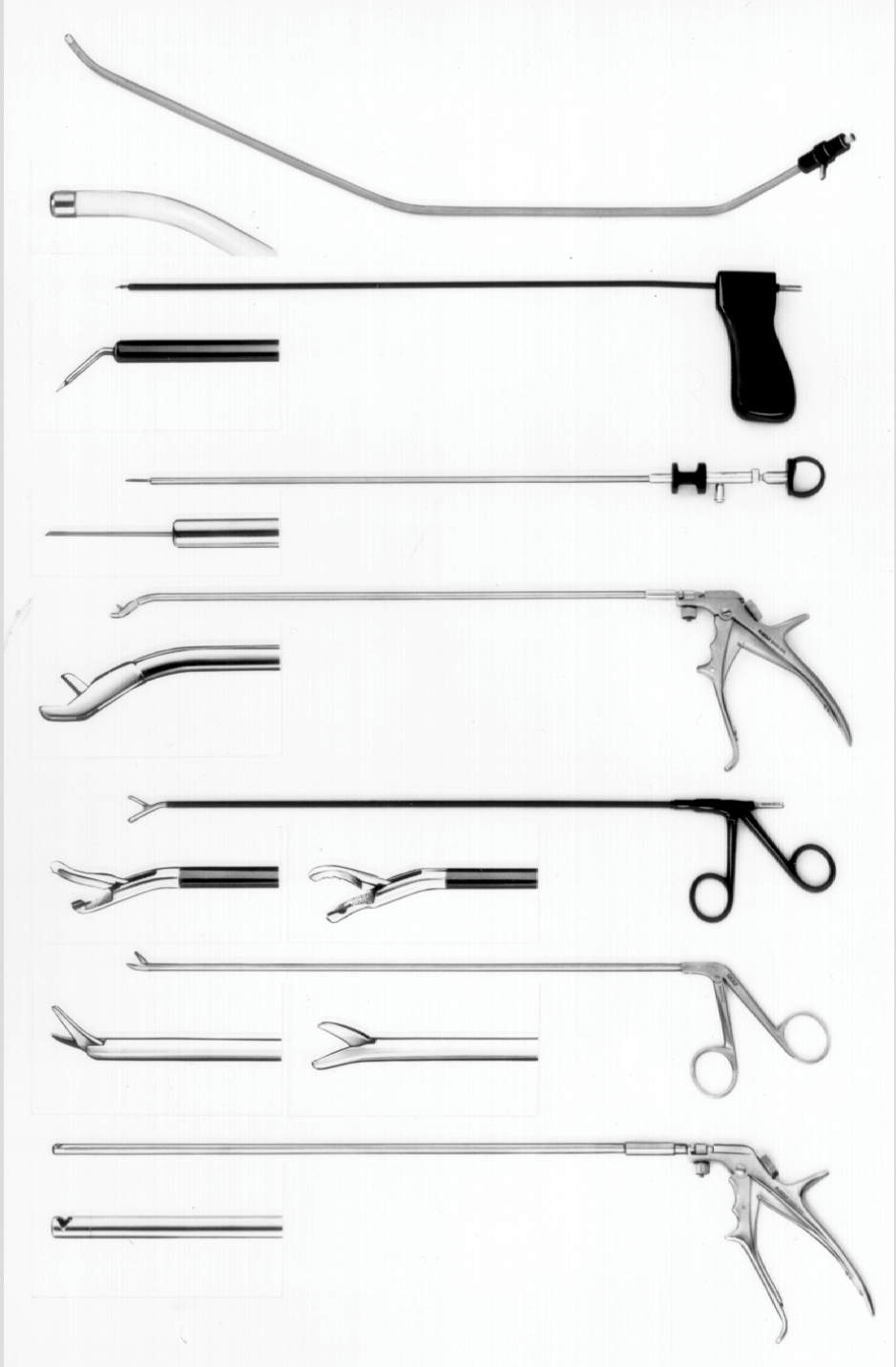

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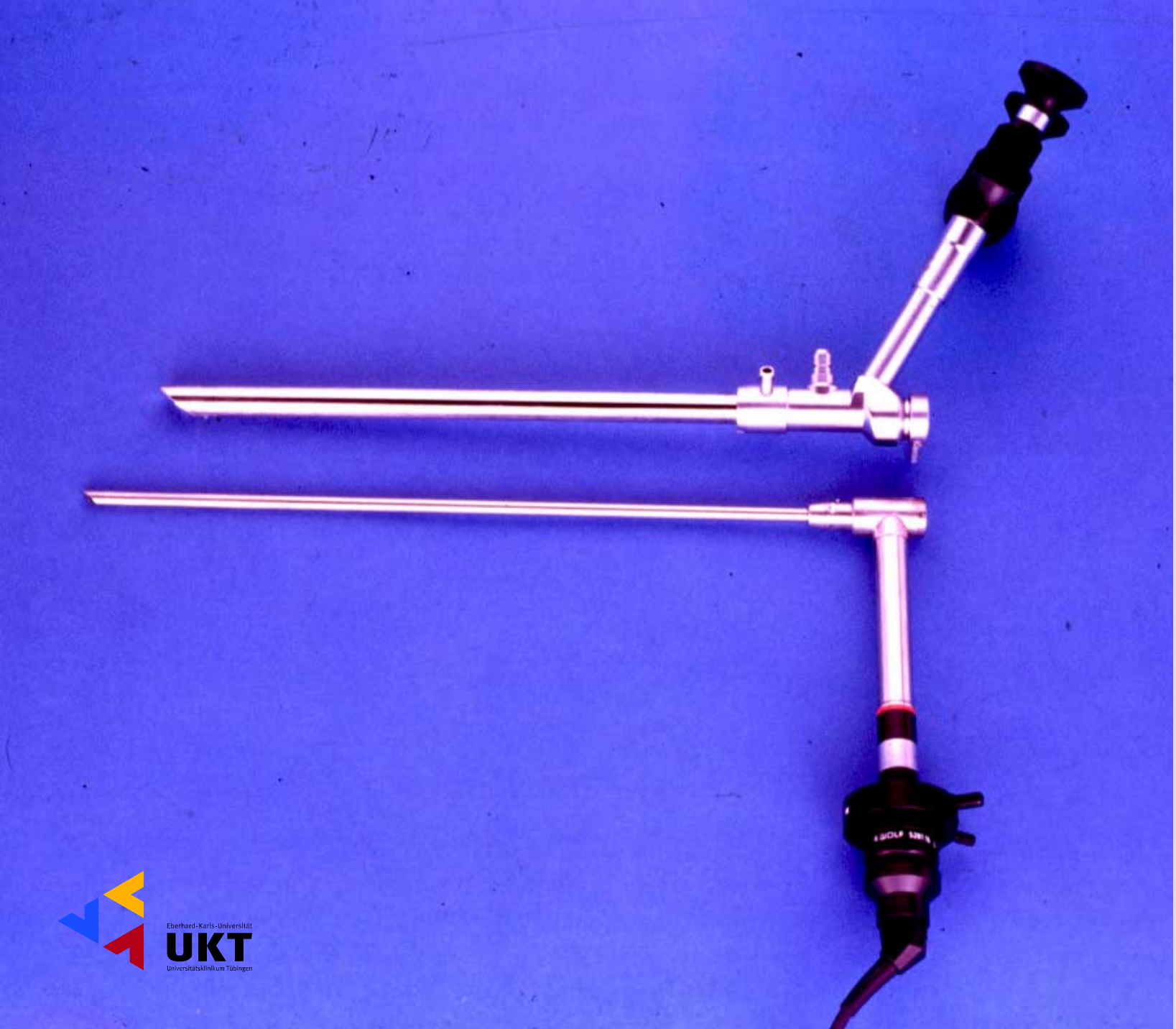

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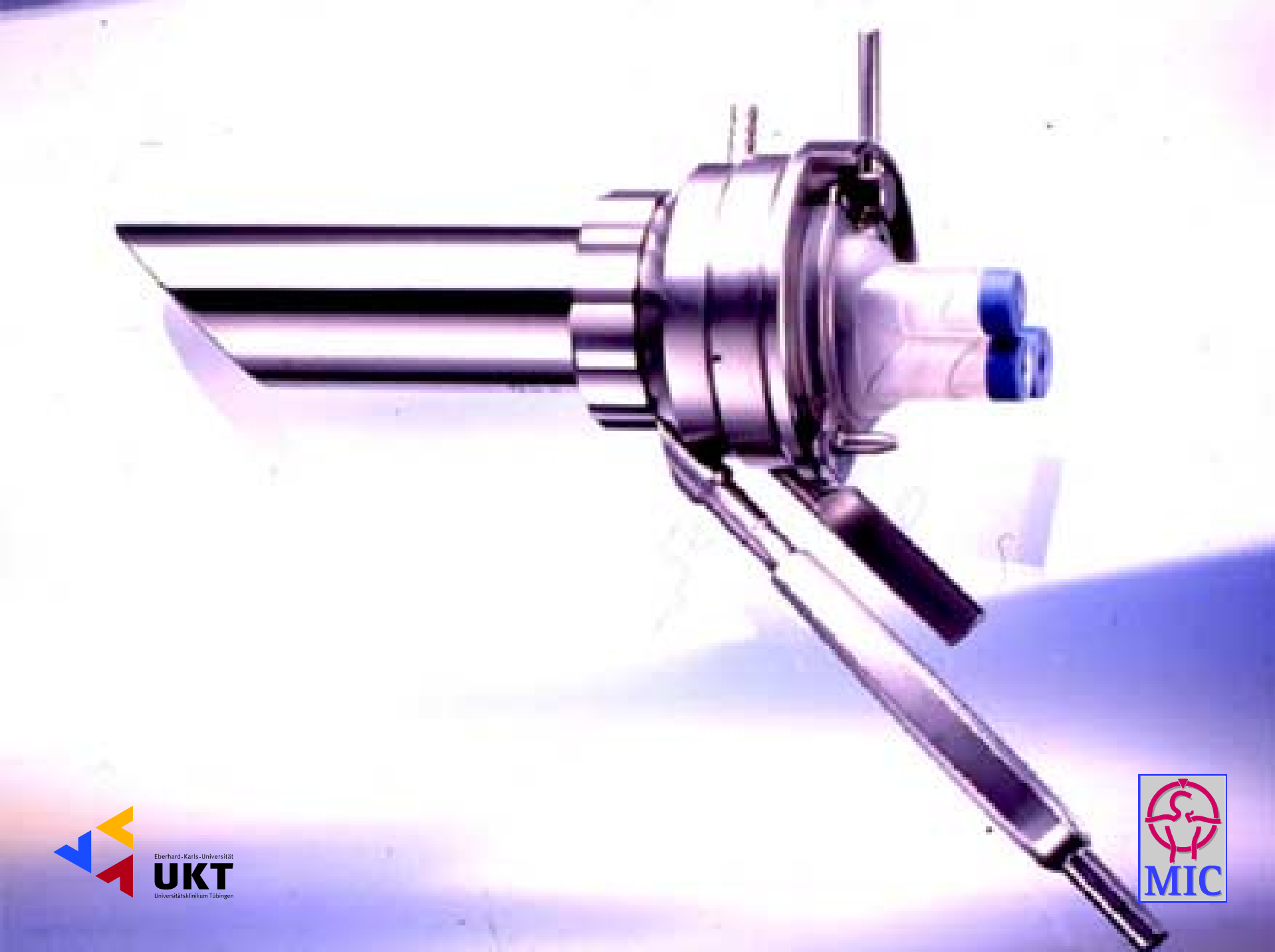

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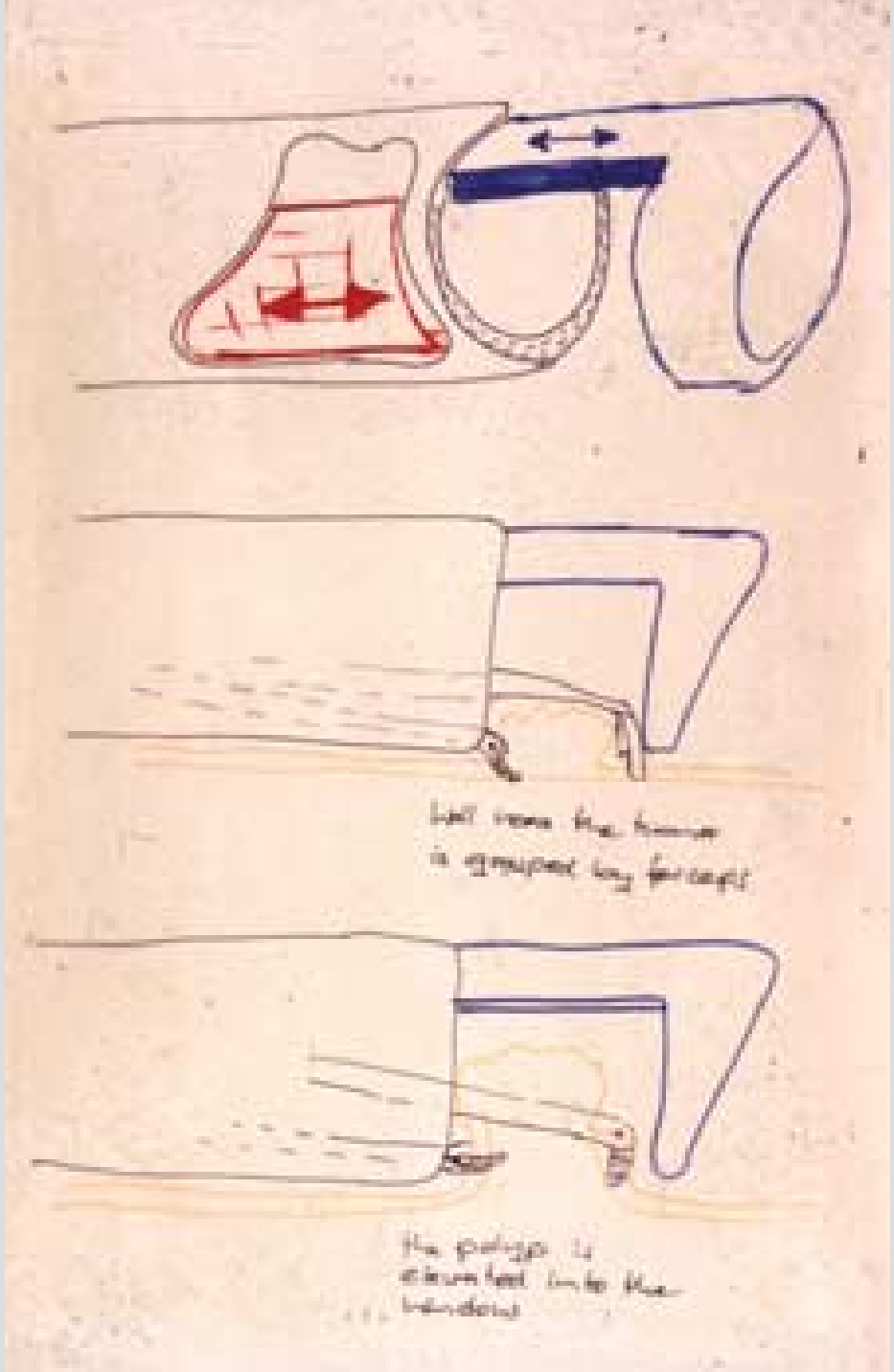

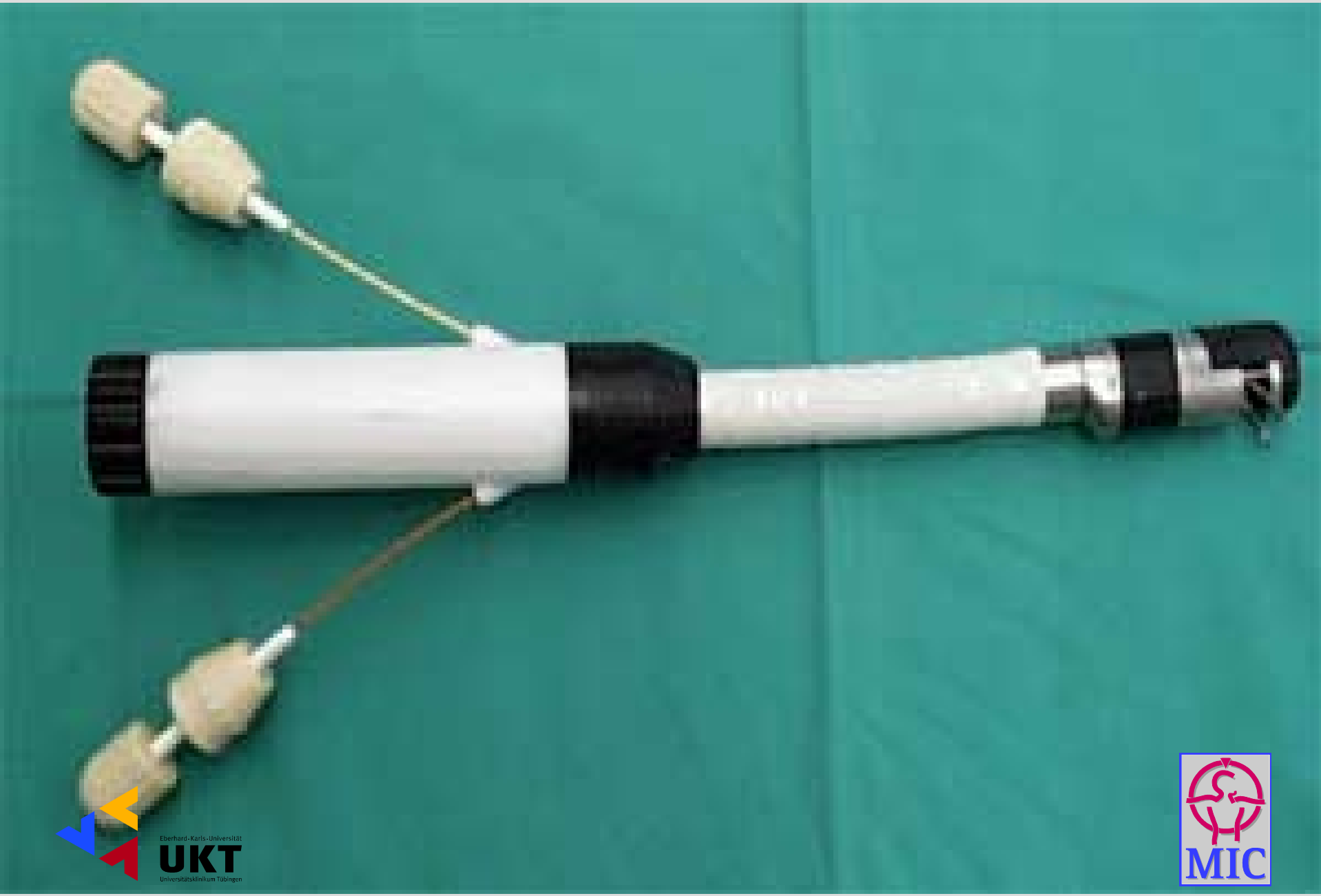
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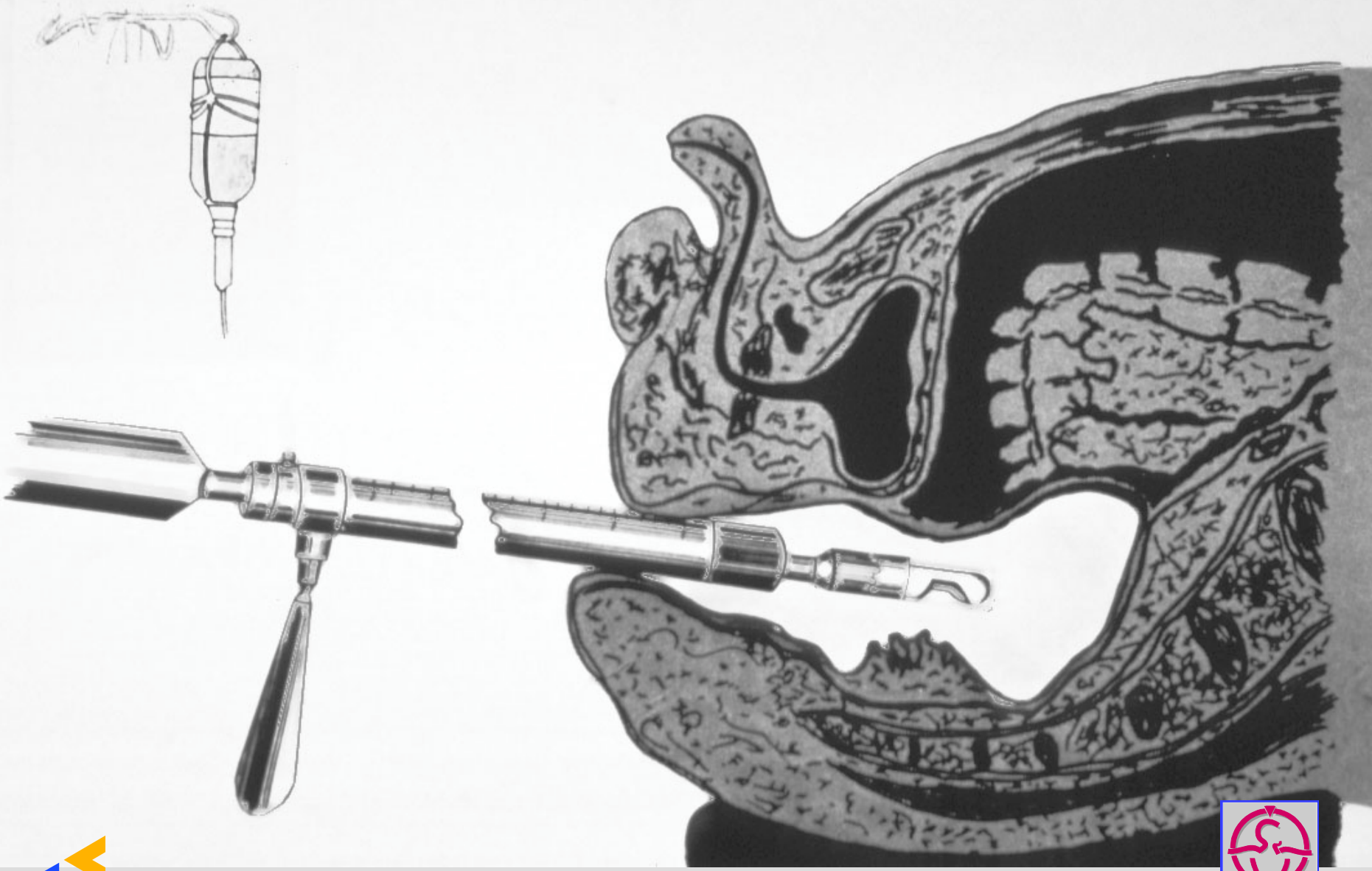

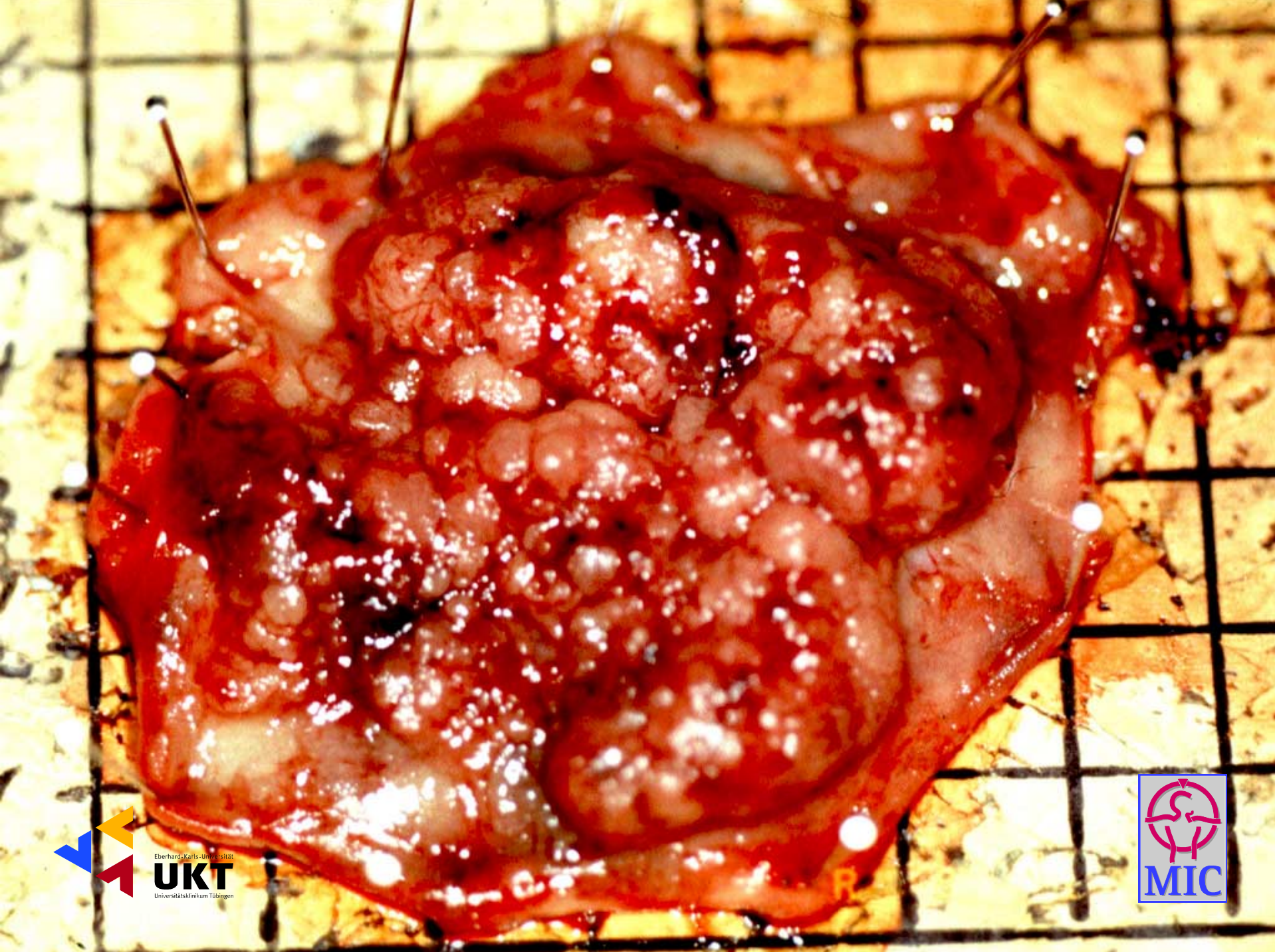
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Intraperitoneal TEM

TEM-full-thickness-resection-3min30s.avi

Adenomas recurrence rate after TEM

Rudinski A: Review of the relevant references 2000-2004

References	n	Recurrences
Lev-Chelouche D et al: *Dis Col Rect 43:662, 2000*	**46**	**8,6 %**
Farmer KC et al: *ANZ J Surg 72: 854, 2002*	**36**	**5,6 %**
Lloyd GM et al: *Colorect Dis 4; 467, 2002*	**68**	**5,9 %**
Saclarides TJ *Clinics Colon Rect Surg 15;2: 157, 2002*	**64**	**10 %**
Nakagoe T et al: *Br J Surg 89; 769, 2002*	**18**	**0 %**
Neary P et al: *Ann Surg Oncol 10(9):1106, 2003*	**21**	**4,7 %**

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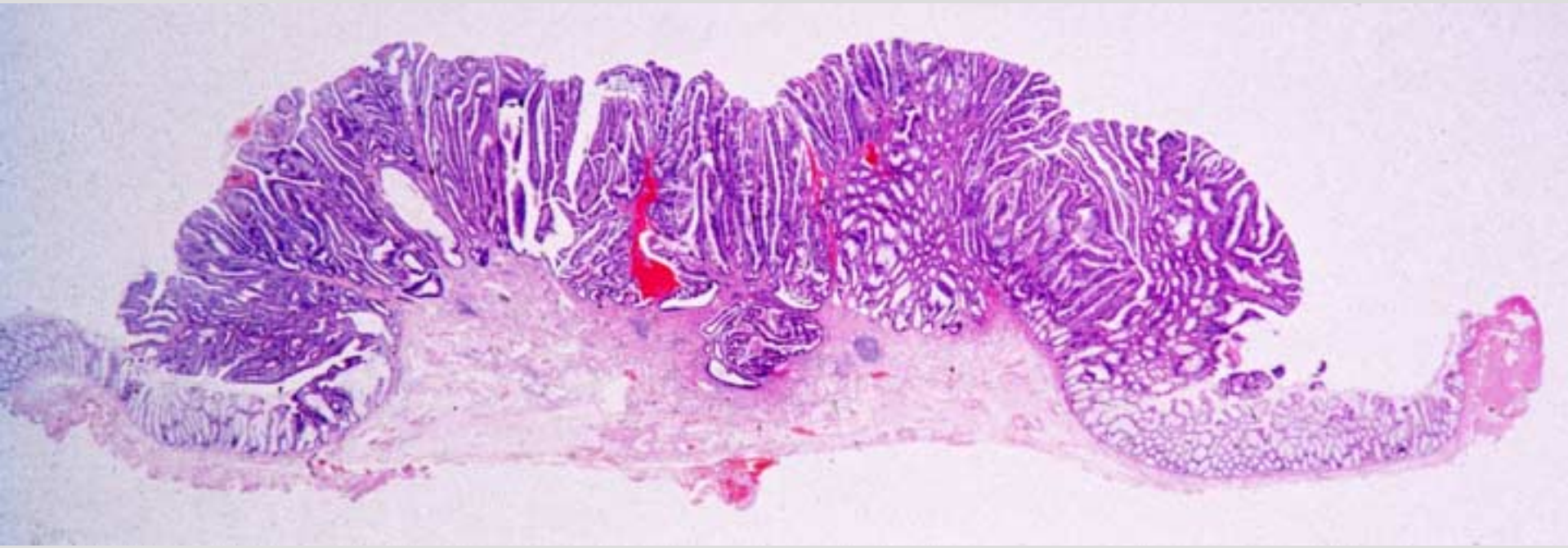
TEM and conventional local Excision

Arguments in favour of TEM

- Most precise local procedure. Due to
  - Magnification and stereoscopic view
  - gas dilatation
  - better instrumentation
  - good teaching and documentation

- Recurrence rates

	TEM	Conventional
Adenomas	3-5 %	20-50 %
T1 low risk Ca	5-10 %	20-30 %



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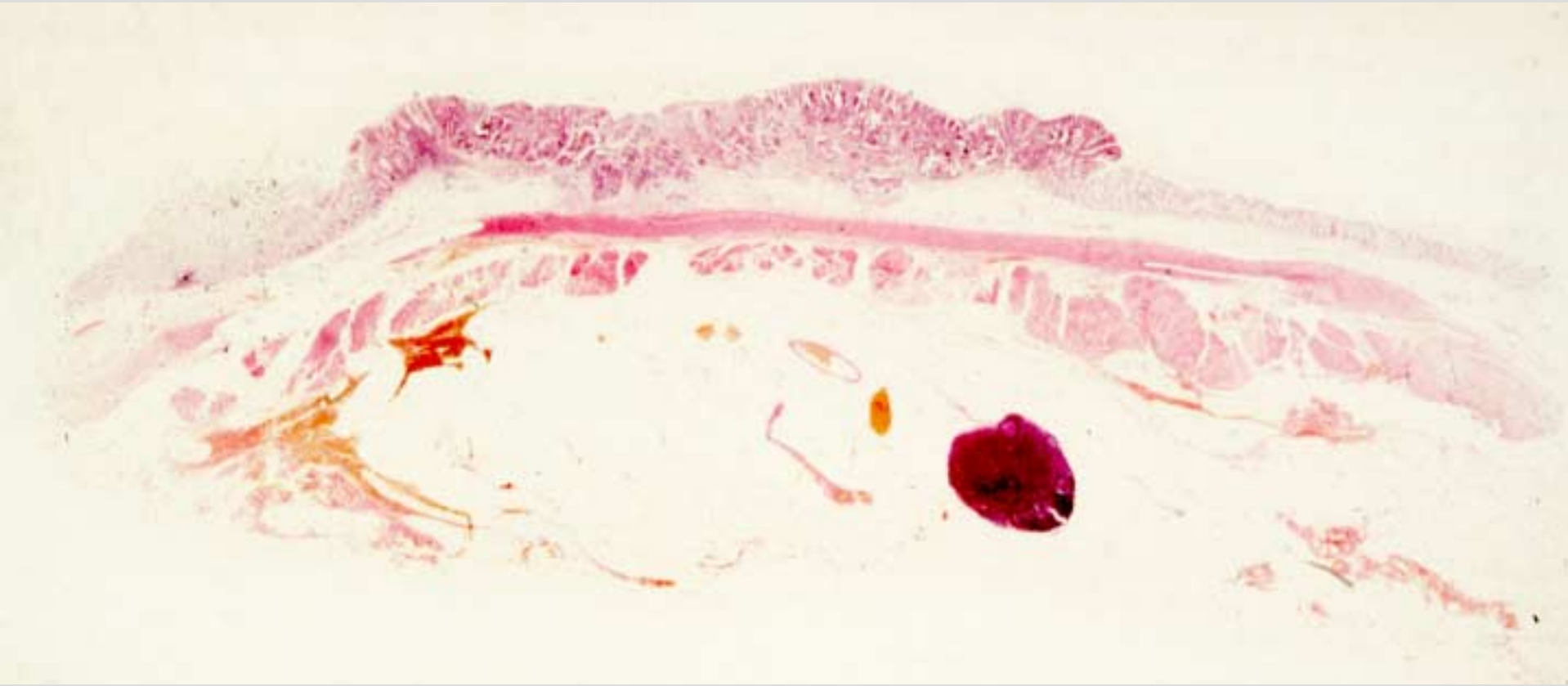

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Recurrences of patients following local treatment by TEM (1985- 2001) University Mainz

Tumor stage	No.of Patients	Rec.	Rate
T1 low-risk	80	6	7.5%
17 immediate reoperations, no Tumor left all recurrences curativly reoperated 1 tumor-related death			
T1 high-risk	28	8	24%
16 immediate reoperations 6 reoperations in recurrence curativ no tumor-related death			

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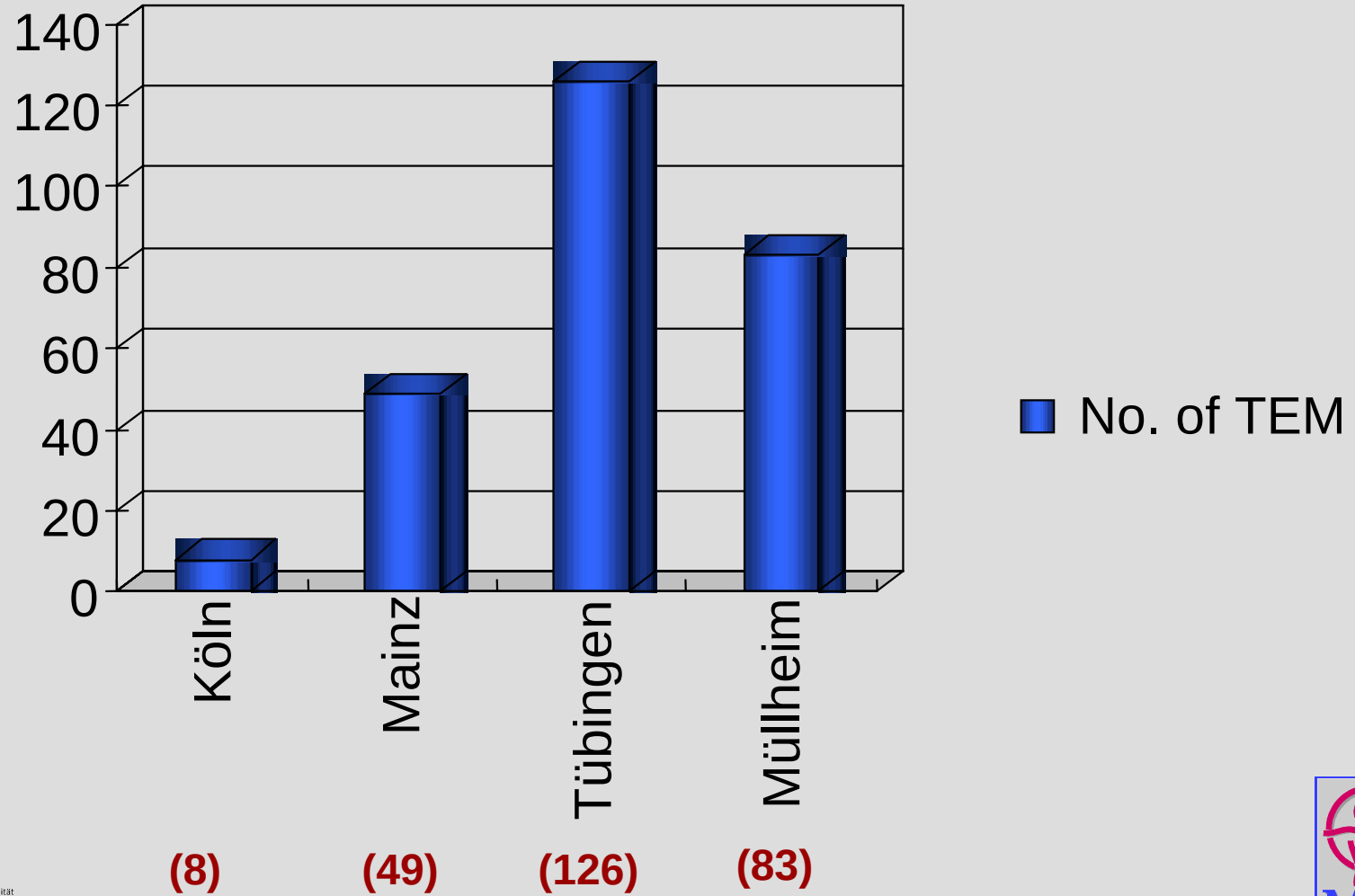
The number of patients with local treatment by TEM for rectal cancer



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Recurrences of patients of local treatment by TEM (3/1989 – 4/1996) University Tuebingen

Tumor stage	No. of patient	Rec.	Rate
T1 low-risk	85	5	5.9%
T1 high-risk	6	3	50%
T2 low-risk	23	1	4.3%
T2 high-risk	2	0	0%
T3 low-risk	7	3	42.9%
T3 high-risk	2	1	50%

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Surgical Cure for Early Rectal Carcinomas (T1)

Transanal Endoscopic Microsurgery *vs.* Anterior Resection

Günther Winde, M.D.,* Hubert Nottberg, M.D.,* Ralph Keller, M.D.,†
Kurt W. Schmid, M.D.,‡ Hermann Bünte, M.D.*

*From the *Department of General Surgery, the †Department of Medicine (B), the ‡Gerhard-Domagk-Institut of Pathology of the Westfälische Wilhelms-University of Münster, Münster, Germany*

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TEM *vs* Laparoscopic Resection of T2-N0 Low Rectal Cancer Following Neoadjuvant Treatment

a prospective randomized trial with three years minimum follow-up

UNIVERSITY of ROME "LA SAPIENZA" - ITALY

Division of 2 CLINICA CHIRURGICA

Head: Emanuele Lezoche, MD, FACS ***emanuele.lezoche@uniroma1.it***

TEM *vs* laparoscopic resection
Conclusions 1

According to the study design in our experience TEM versus LR with preoperative chemoradiotherapy has achieved no significative difference in terms of:

- probability of local recurrence or distant metastases (5%)
- disease-free survival rate (85% in arm A and 80% and B)
- post operative complications

Surg. End. in press 2004
emanuele.lezoche@uniroma1.it

TEM *vs* laparoscopic resection

Conclusions 2

According to the study design in our experience TEM versus LR with preoperative chemoradiotherapy has achieved significative better results in terms of:

- n. of temporary & definitive stoma (p 0.016)
- convertion rate (p 0.05)
- operative time (p 0.001)
- blood loss (p 0.001) and necessity of trasfusions
- use of analgesic (p 0.001)
- hospital stay (p 0.001)

Surg. End. in press 2004
emanuele.lezoche@uniroma1.it

Stipa 2006, more than 5 year follow up in Ca

Recurrences in 69 pat. 6=8,7%

Tis	25pat	8 %
T1	23	8,6%
T2	21	9,5% pre or post RCT

2 died unrelated to cancer
3 alive, disease free
1 alive, disease

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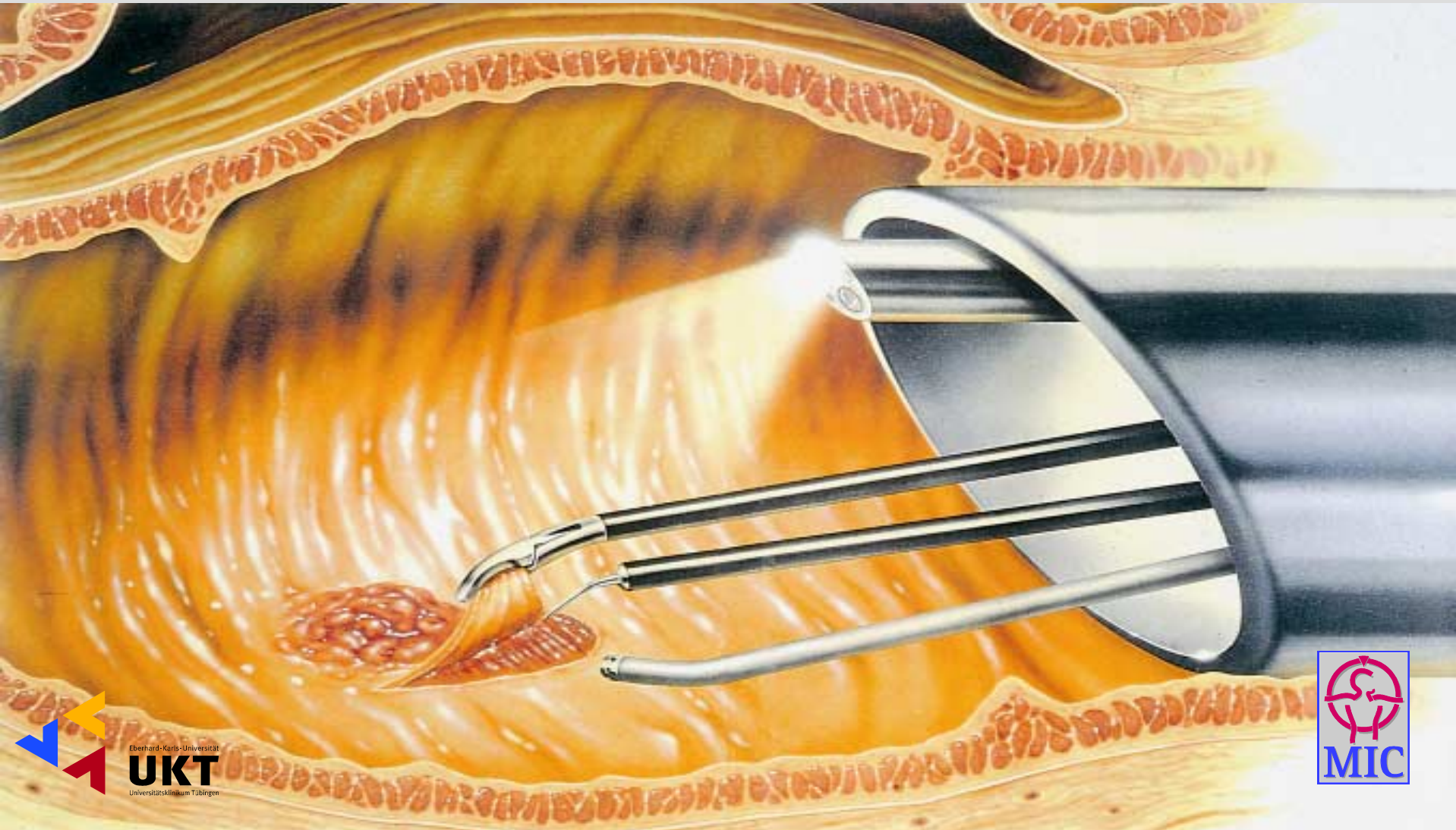
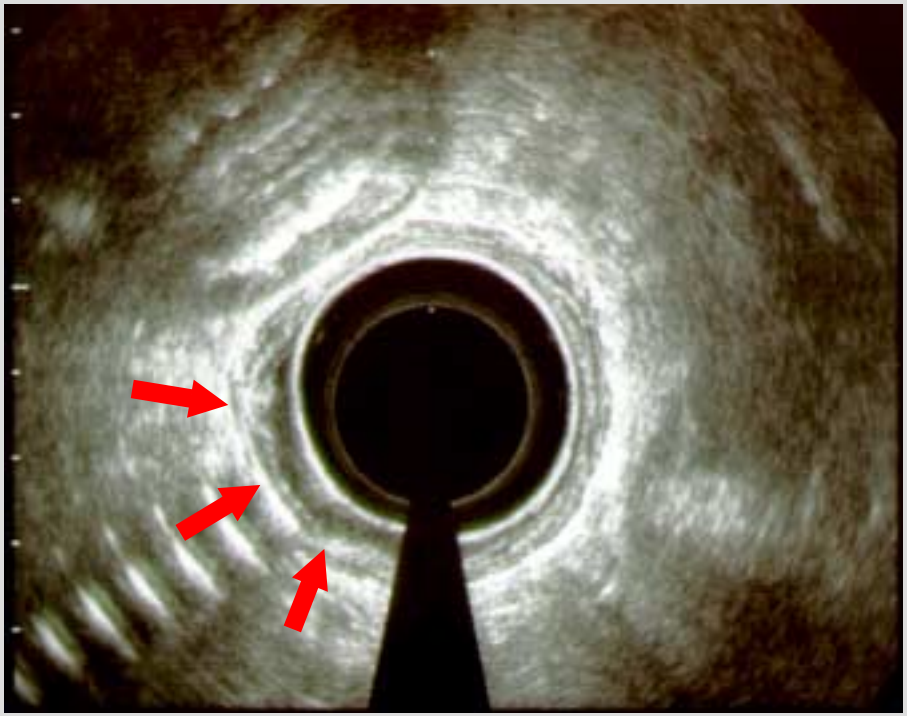
TEM Patients n=273
(1998- March 2006)





Before radiochemotherapy

Diagnosed as uT2
by endorectal ultrasonography

After radiochemotherapy

Diagnosed as pT0
histopathologically

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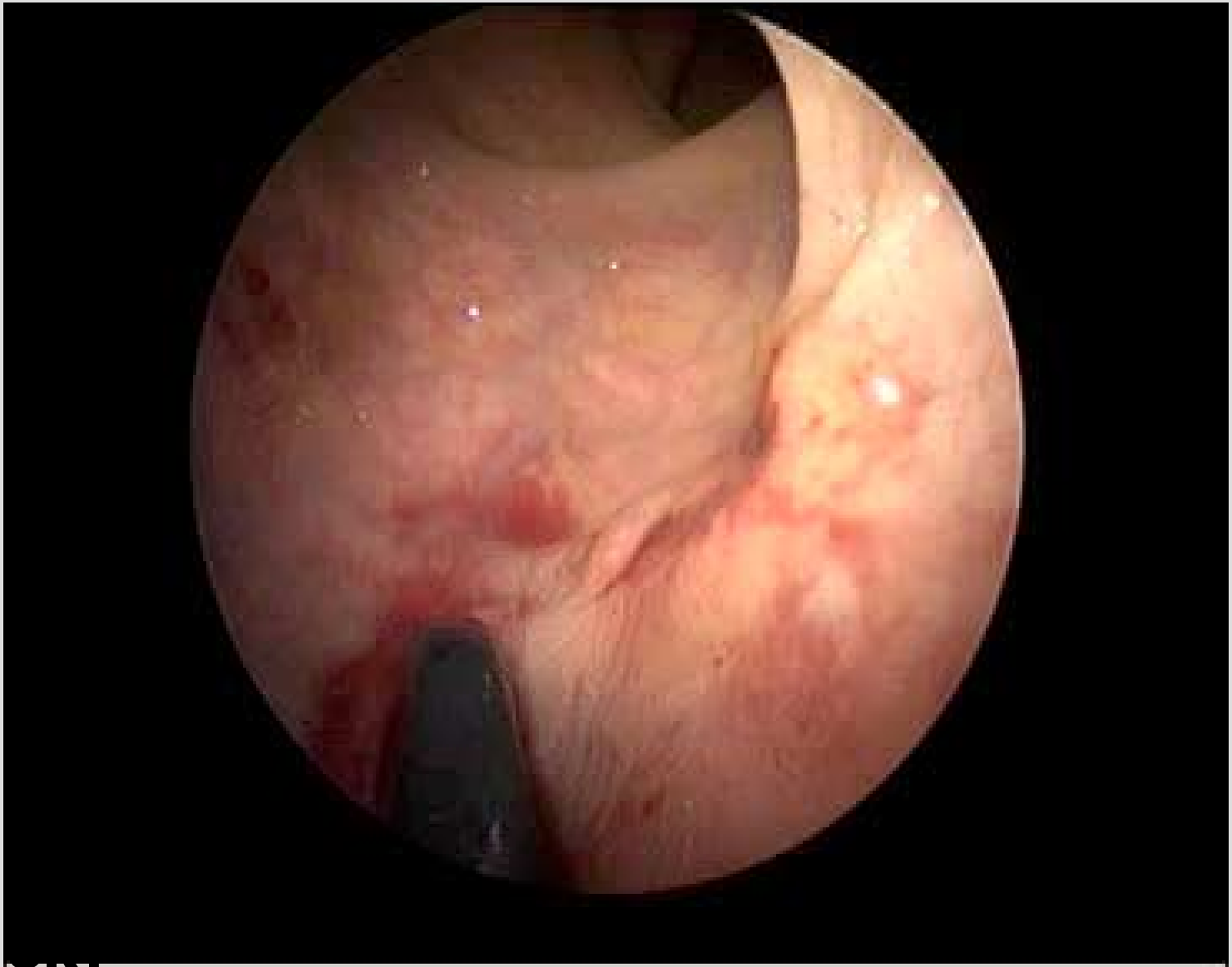
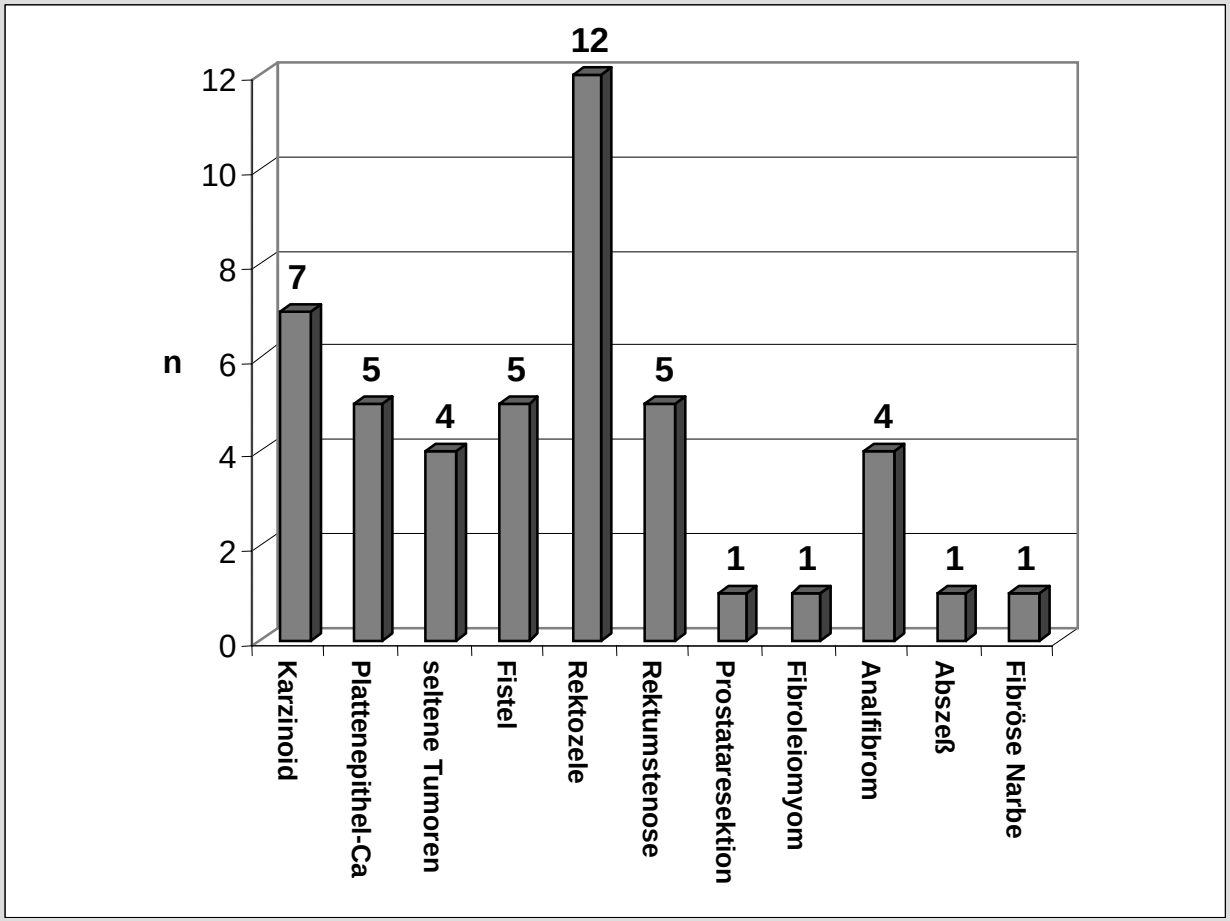
TEM after preoperative chemoradiotherapy



TEM_chemorad_3min.mpg

Patients with other diagnoses



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Postoperative complications

Adenoma-Patients (n=101):
1 Stenosis (1%)
1 Suture dehiscense (1%)

Carinoma-Patients (n=130):
12 Suture dehiscenses (8%)
4 bleedings postop. (3%)
2 Dysuria (2%)
2 partial incontinence (2%)
2 others (2%)

other diagnoses (n=46):
1 postop. bleeding (2%)

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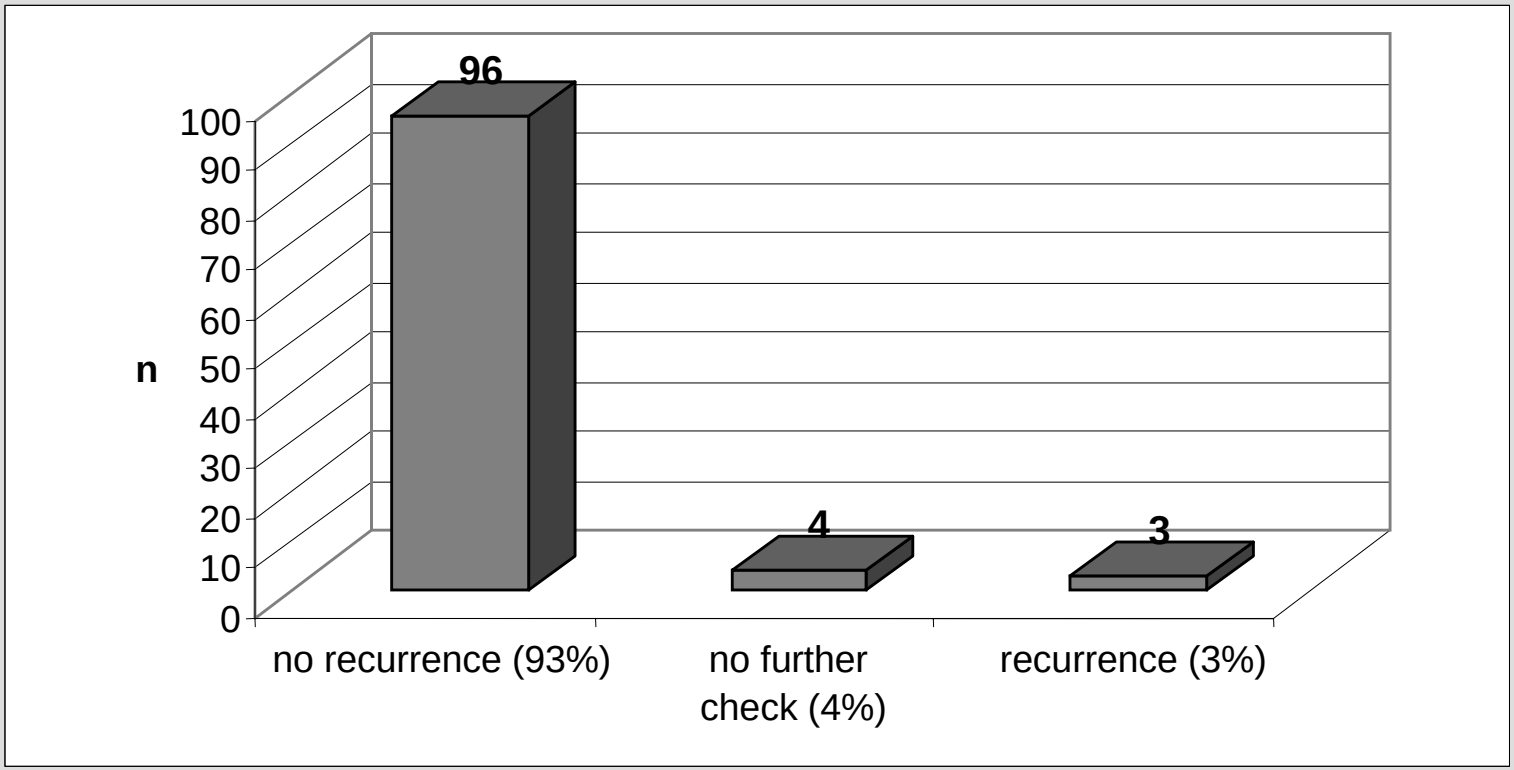
Follow-up



“Adenoma” group

T1 low risk n=44

- Full thickness excision, no RCT
- 5 local recurrences
  - 2 RCT and radical operation
  - 2 RCT and TEM
  - 1 TEM

  - no further tumor

  - 1 distant metastases

Results in T2 low risk tumors

Preoperative radiochemotherapy:
overall 2 recurrences in 14 patients

Patients with downstaging following radiochemotherapy:
1 recurrence in 10 patients *palliative ReOp*

postoperative radiochemotherapy
1 recurrence in 9 patients *curative ReOp*

No radiochemotherapy
1 recurrence in 11 patients *curative ReOp*

Why do we have today a rate of reoperations?

- Lacking of diagnostic preciseness concerning definition of infiltration depth
- also in experienced hands following biopsy and ultrasonic evaluation a huge presumed adenoma can be a T2 cancer
- a significant number of preoperative evaluation as low risk can be high risk in the complete pathological evaluation
- high risk criteria depend on method (immunhistology)

What can we do better in the future?

More preciseness of preoperative diagnosis

- ultrasonic controlled trucut biopsy
  first results in small case load is promising

- national centers for pathological evaluation, to exclude individual differences in evaluation

Results in high risk tumorsT2

- Recurrence rate close to 50 %
- no clear influence by radiotherapy
- high proportion of therapy failures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History of training activities of the Buess working groups

- 1985 First training course for endoscopic surgery in Cologne
- 1990 First training center in Europe linked to a university hospital (Tuebingen)
- 1995 Stepwise lintegration of advanced courses
- 2000: Stepwise globalisation with focus on developmental countries

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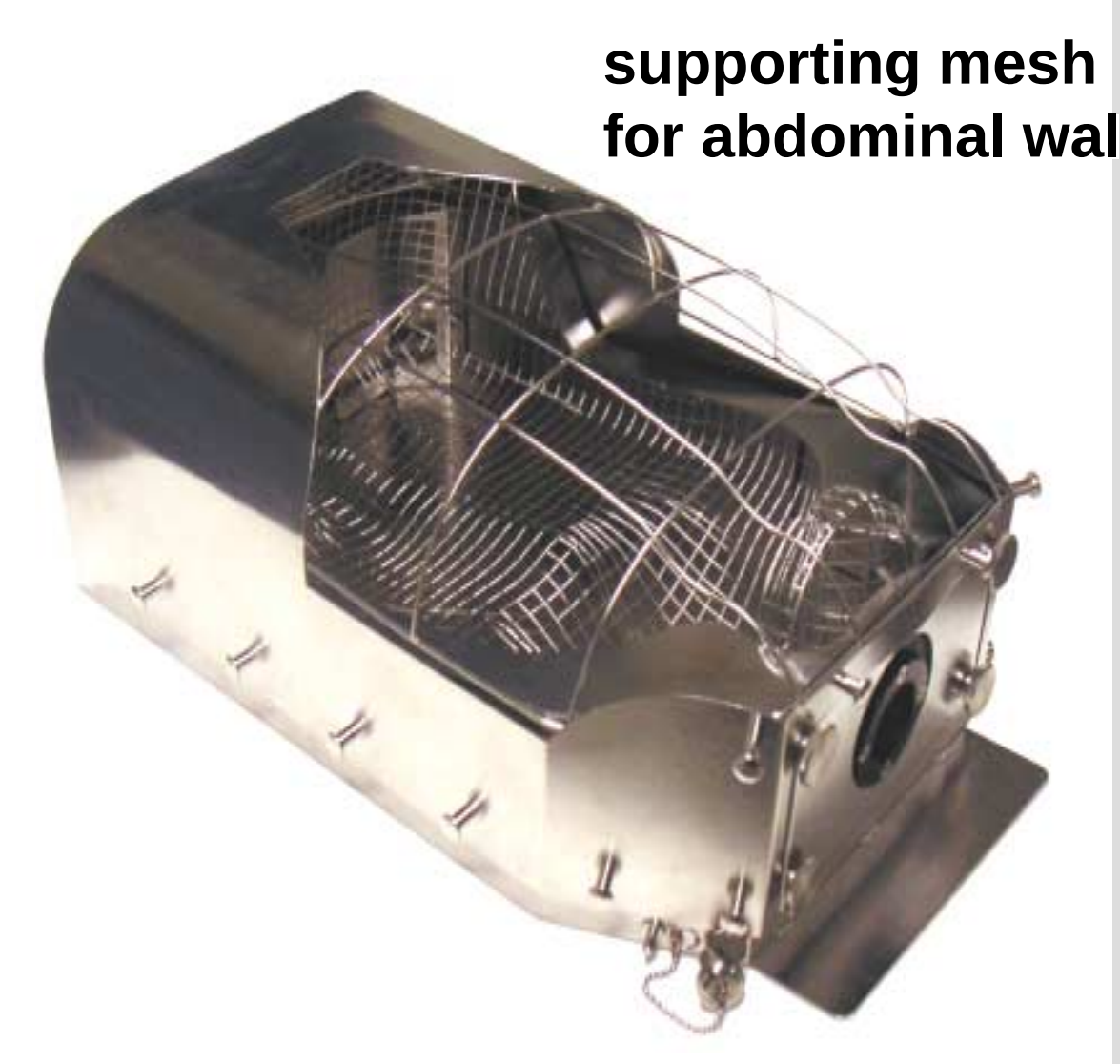
The Tuebingen MIC-Trainer



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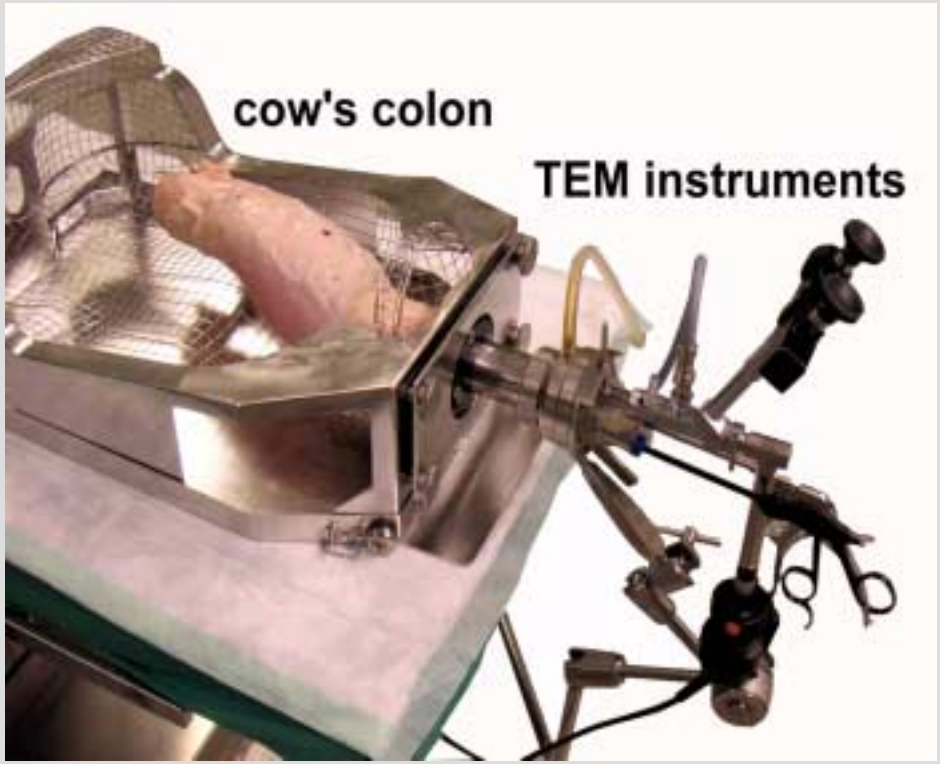
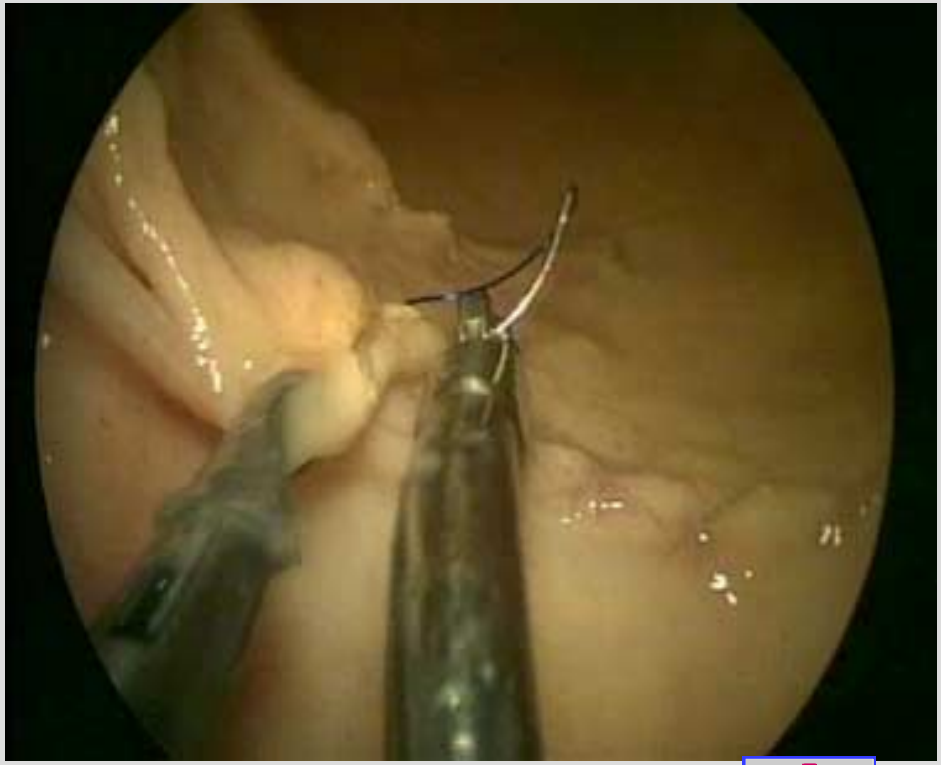
Training Applications

transanal endoscopic microsurgery (TEM)





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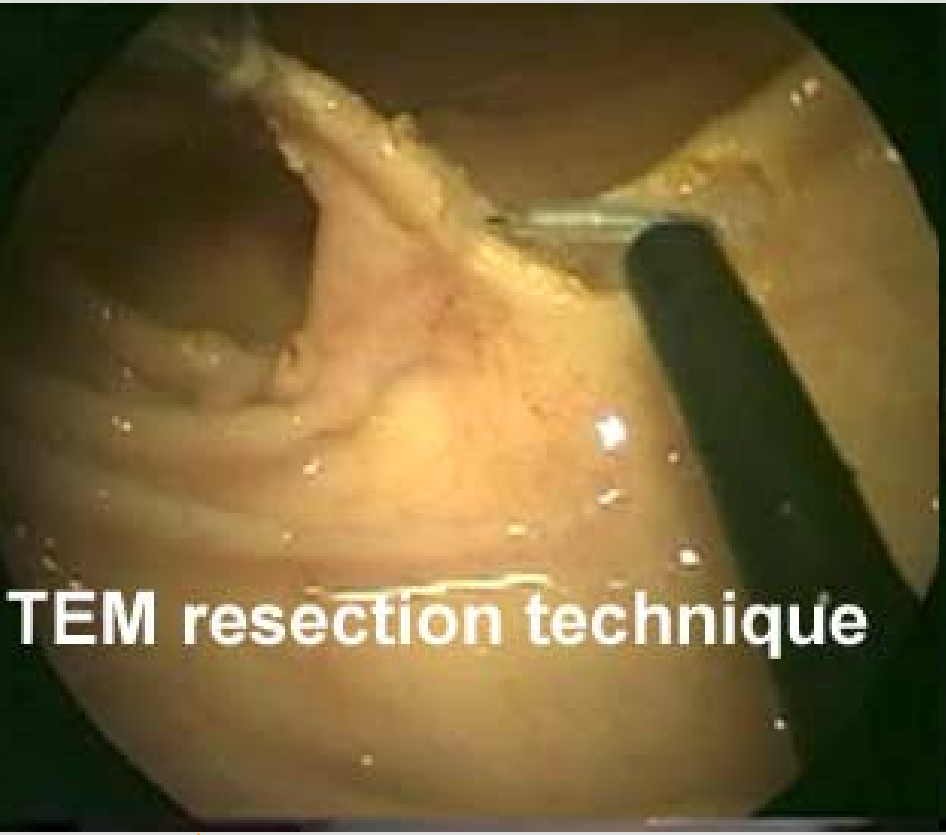
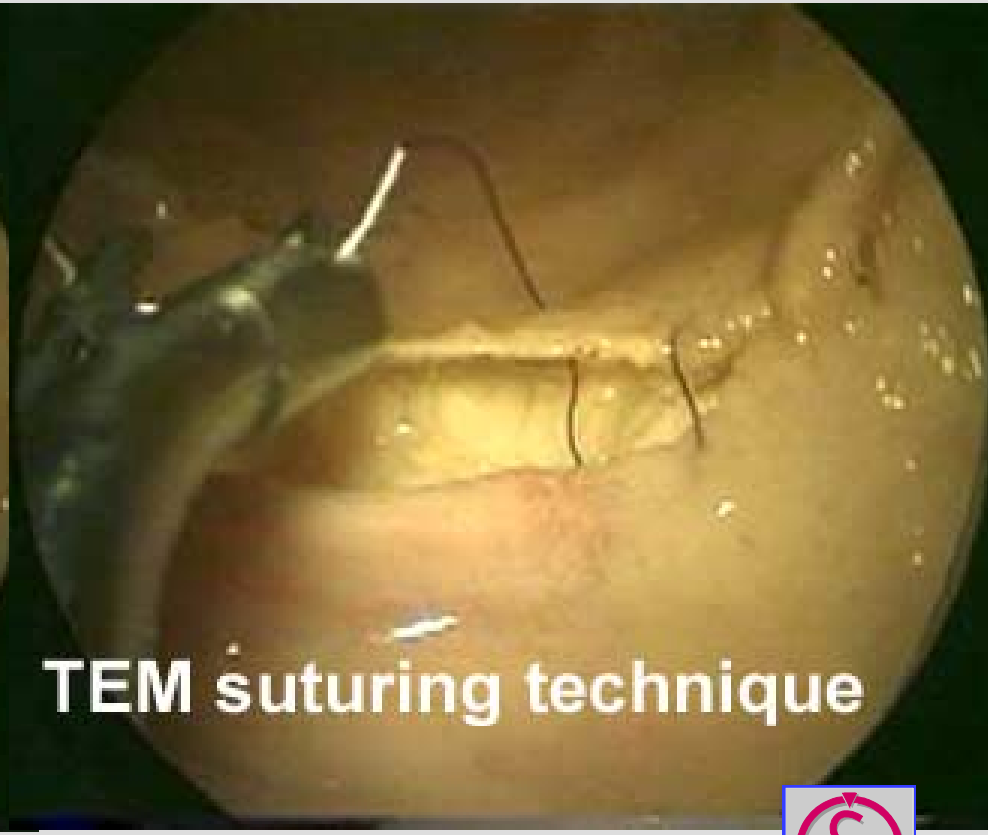
Training Applications

transansal endoscopic microsurgery (TEM)





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Training courses TEM in the world