Making reconstructions work

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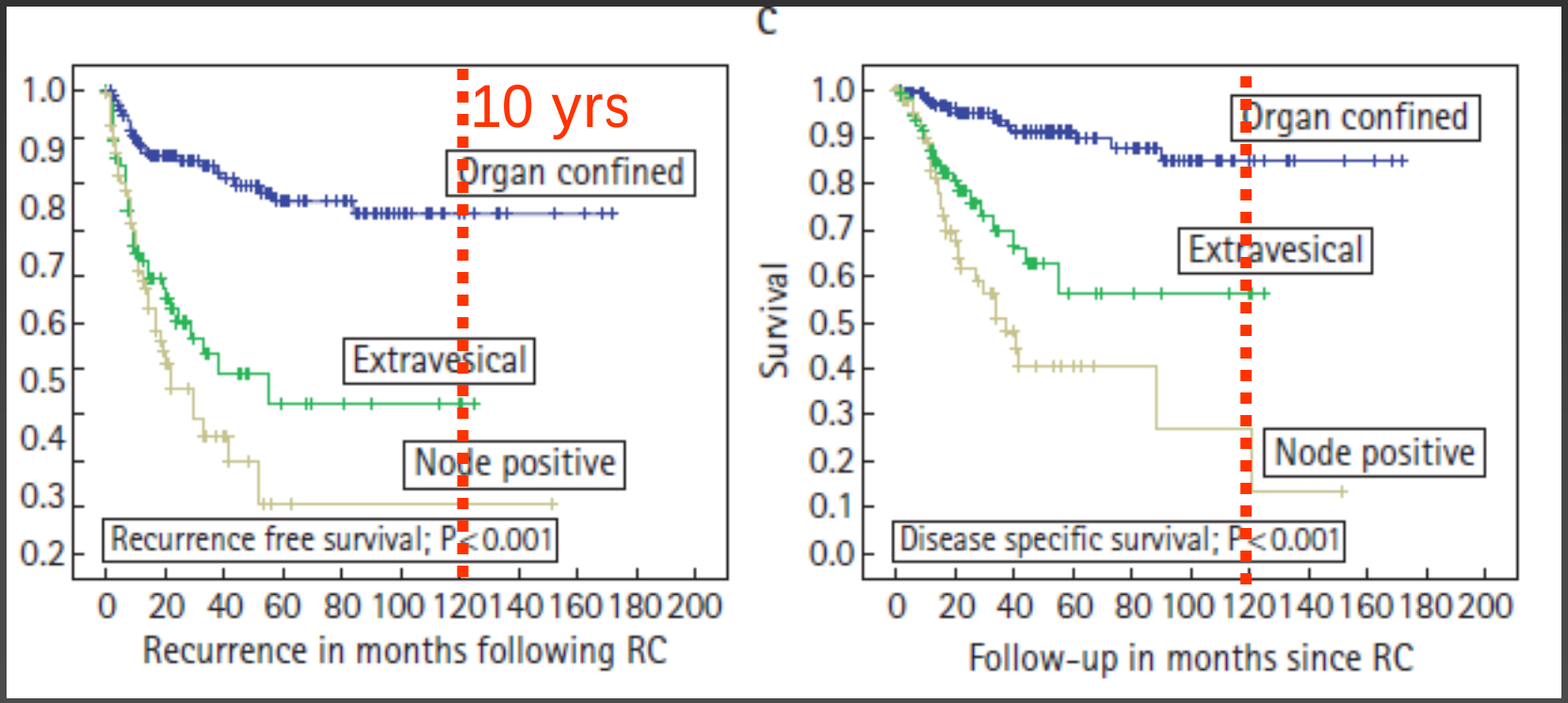
10–year warranty

RFS *DSS*



Manoharan et al, BJUI 104: 1227, 2009

Recurrence-free survival after cystectomy

Reference	No. of Patients (male + female)	Follow-up median (months)	Recurrence-free survival		Recurrence	
			5 years (%)	10 years (%)	Local (%)	Distant (%)
Stein et al. [4]	1,054	122	68	66	7	22
Madersbacher et al. [11]	507	45	62	50	8	35
Hautmann et al. [57]	788	53	65	59	9	18

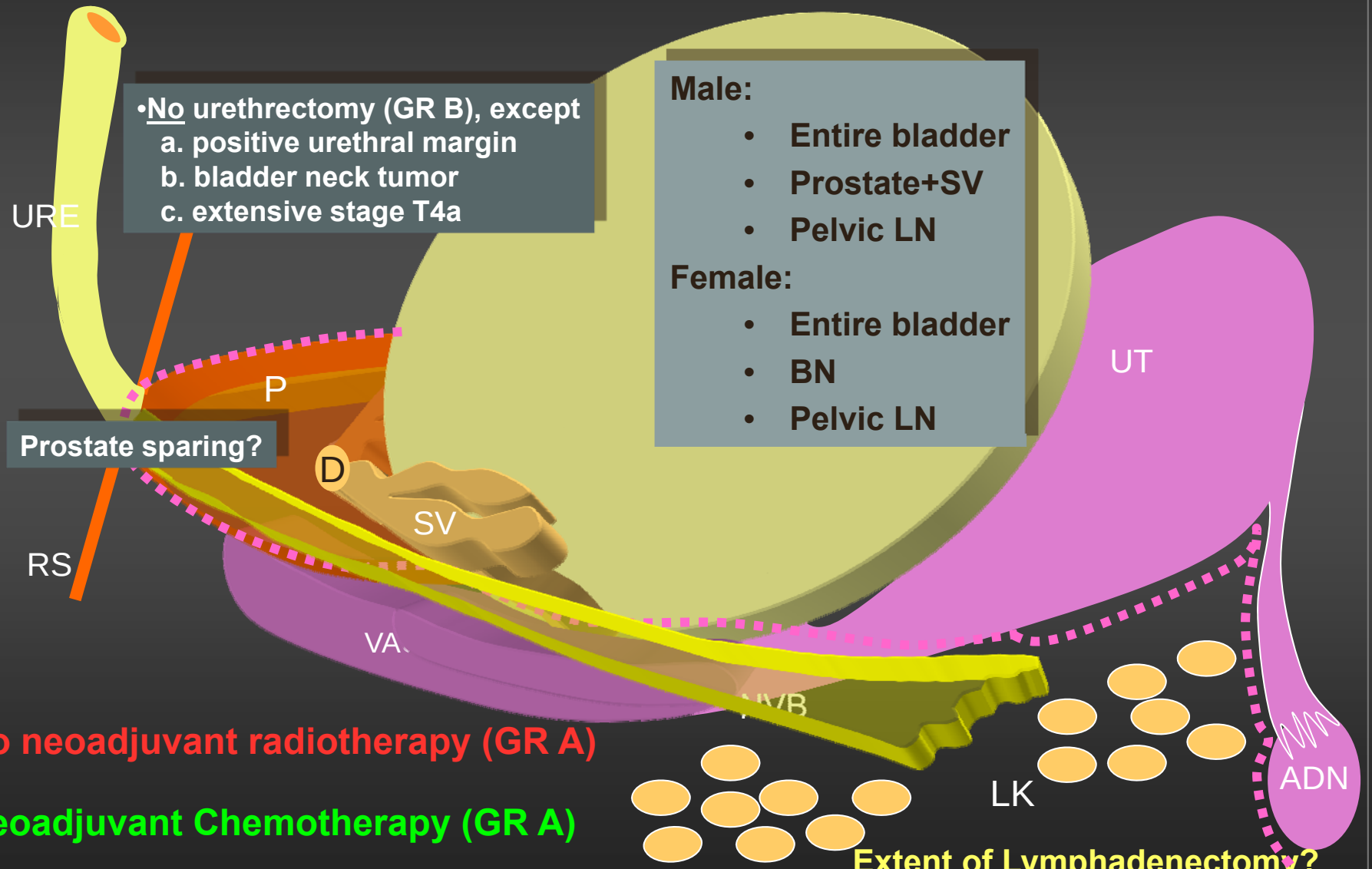
Stenzl et al, 2010

Experience with laparoscopic cystectomy

Date of surgery	Operative time (hours)	Postoperative hospital stay (days)	Blood units per patient
Group A April 1993–April 1999 ($n = 172$)	6.6 ± 1.2 (median: 6.7)	23.8 ± 7.4 (median: 22)	2.7 ± 2.4 (median: 2)
Group B May 1999–July 2002 ($n = 172$)	5.8 ± 1.3 (median: 5.8)	22.5 ± 6.4 (median: 21)	2.3 ± 1.8 (median: 2)
Group C August 2002–August 2005 ($n = 172$)	5.7 ± 1.1 (median: 5.6)	17.4 ± 4.7 (median: 15)	1.4 ± 1.4 (median: 0)

V Novotny et al., Eur Urol 51:397-402, 2007

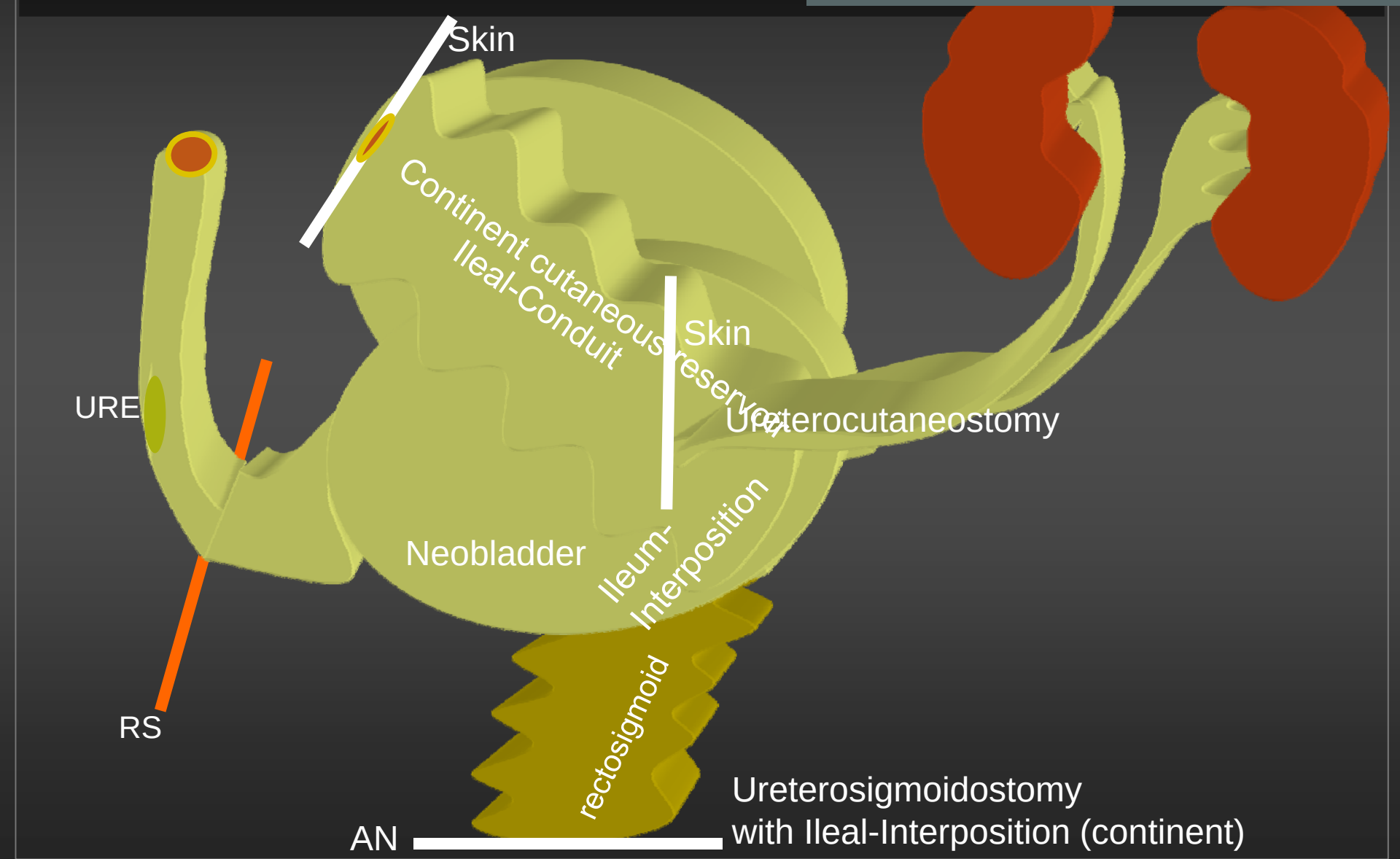
Extent of radical cystectomy (male)
Anterior exenteration (female) *EAU GL MIMBC 2012*



Urinary Diversion

Consensus with the patients (GR B)

Orthotopic neobladder to be offered both in males and females
except positive urethral margin/positive soft-tissue margin
(GR B)



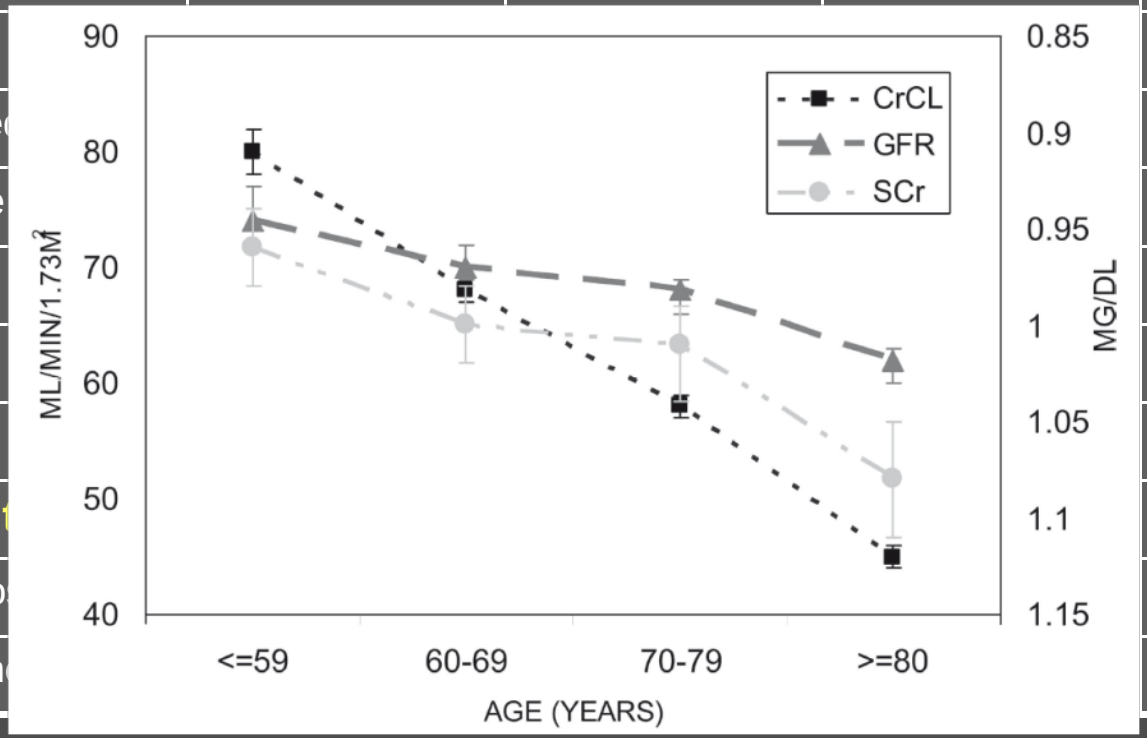
Severe late complications, age and renal function

System or type Late major	<60 years (%)	60-69 years (%)	70-79 years (%)	≥80 years (%)
Cardiovascular	0	1,0	0	0
Dehydration	0	0	0	0
IPP/AUS	6,0	2,0	1,0	0
Urinary diversion	32,0	29,0	12,0	2,0
Gastrointestinal				0
Hemorrhage/blee				0
Infectious disease				0
Lymphatic				0
Neurologic				0
Pulmonary				0
Upper urinary t				0
Vascular/thrombo				0
Wound/incision/h				2,0

GFR <60 ml/min per 1.73 m2

→ **51%**

Kaag MG et al. Eur Urol 2010;58:581–7.



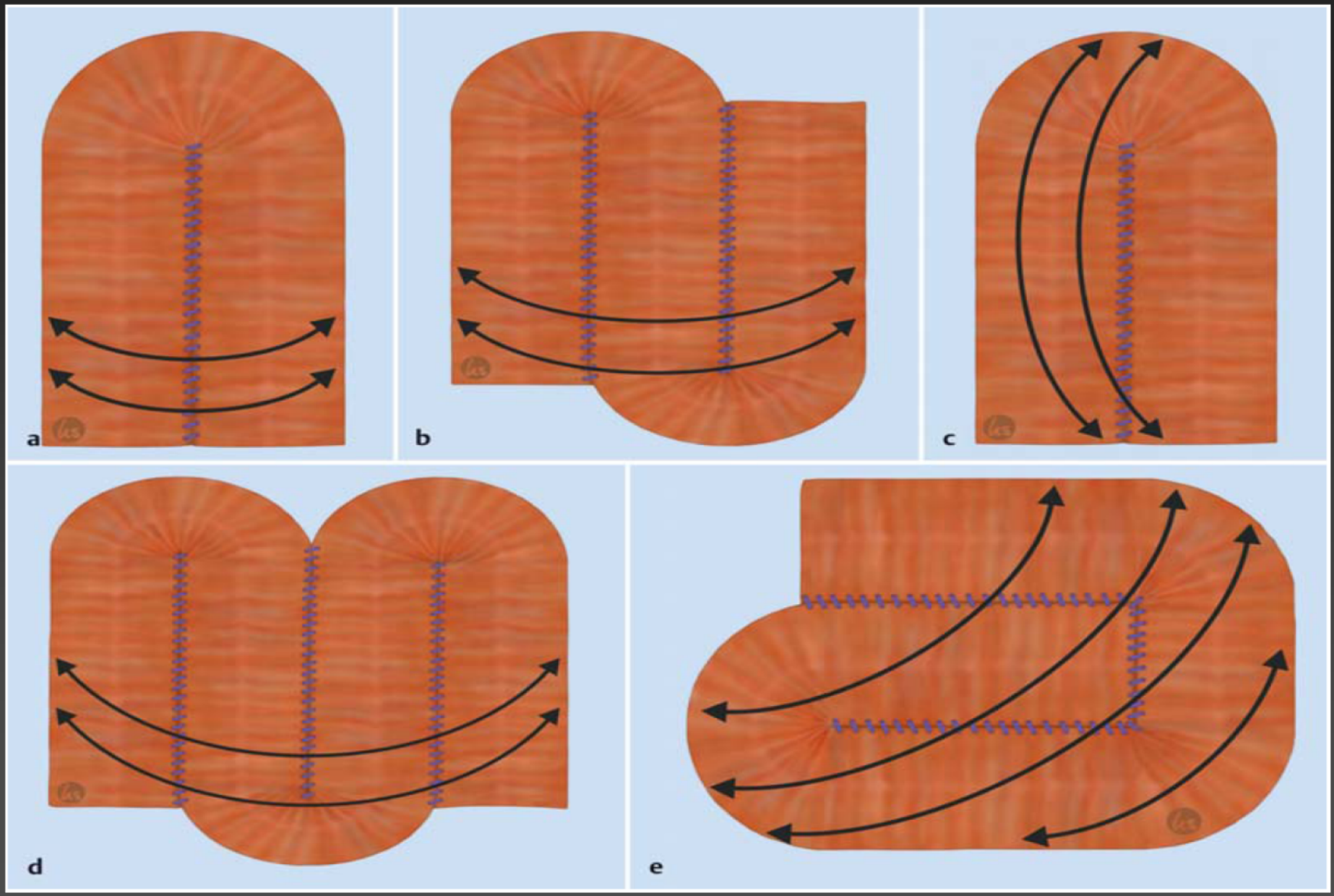
Clark et al, Cancer, May 2005

89 y/o lady, macrohematuria extensive UC cT3a, cN-0, M-0

Reference	*n*	Inclusion criteria	Overall survival	
			3 yr	5 yr
Saika et al [10]	12	≥75 yr	66%*	46%*
Lance et al [52]	36	≥80 yr	52%*[1]	38%*[1]
Farnham et al [50]	44	≥75 yr, ASA 3–4	38%*[2]	17%*[2]
Knap et al [25]	53	≥70 yr	NA	44%
Gupta et al [54]	41	≥70 yr	NA	43%[3]
Zebic et al [55]	53	≥75 yr	NA	8%[4]
Clark et al [28]	244	≥75 yr	64%*	54%*
Clark et al [28]	50	≥80 yr	40%*	33%*
Deliveliotis et al [56]	54	≥75 yr, ASA 3–4	NA	43–47%[5]
Liguori et al [57]	45	≥80 yr	36%	26%
May et al [35]	44	≥75 yr	54%*	48%*
Sogni et al [59]	85	≥75 yr	46%*[6]	43%*[6]

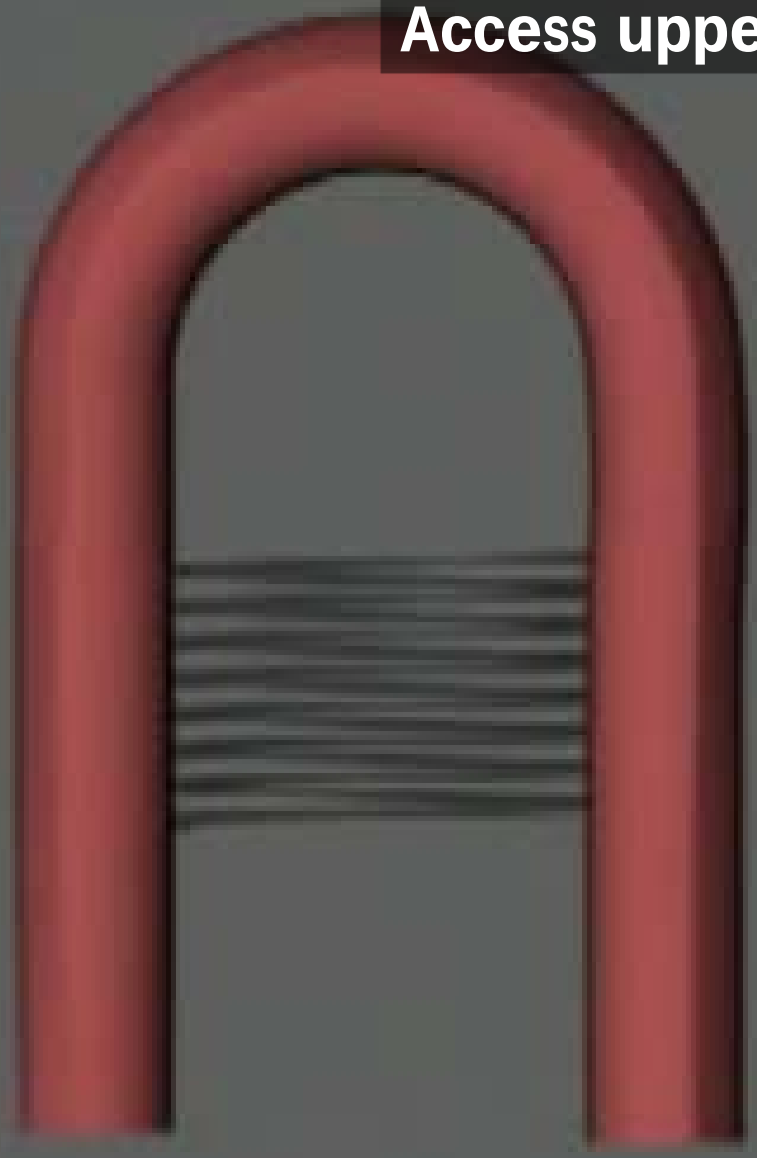
- Spinal anesthesia
- Nutritional status
- Ureterocutaneostomy
- Selection ...

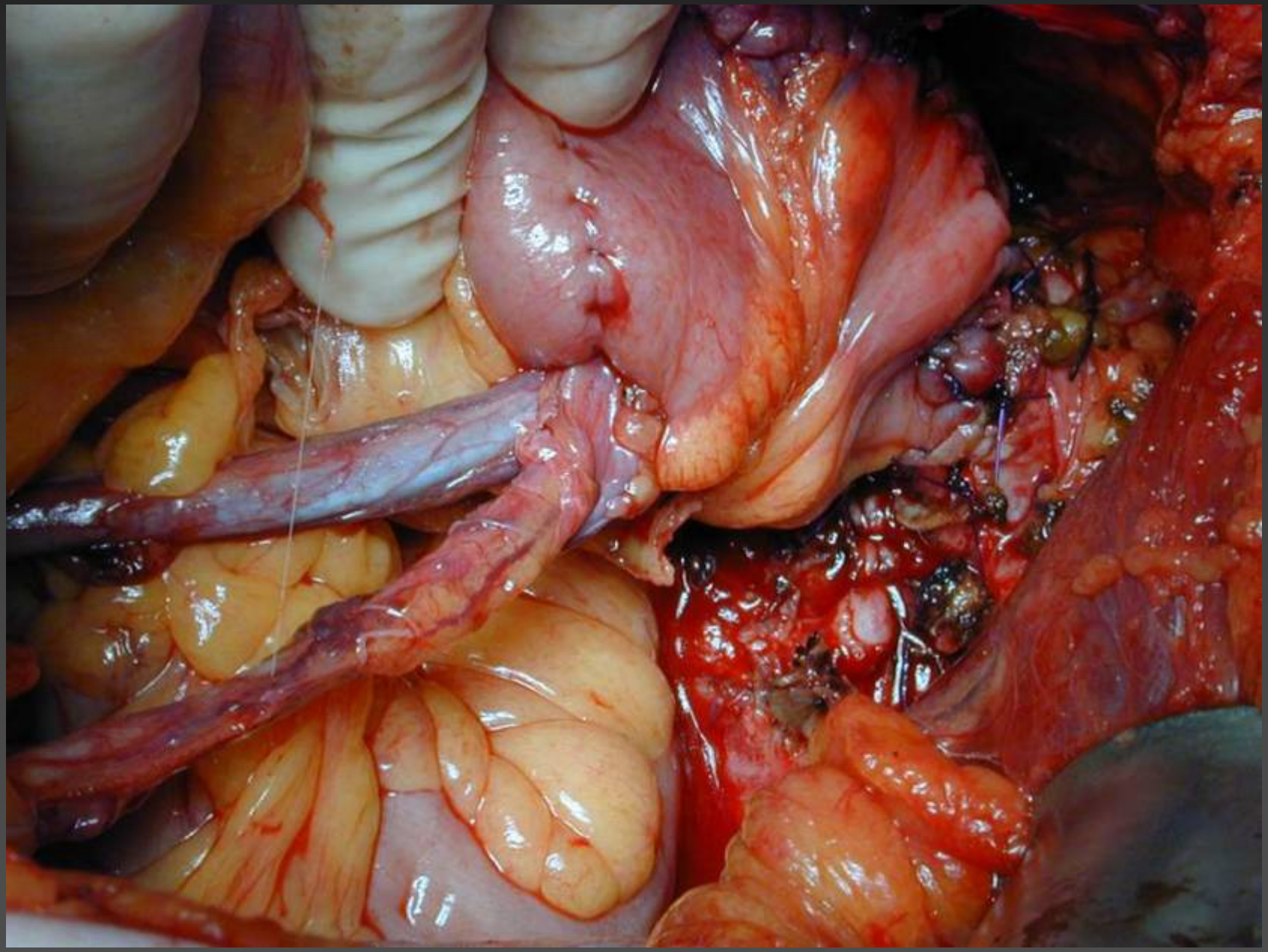
Michael Froehner, Maurizio A. Brausi , Harry W. Herr, Giovanni Muto, Urs E. Studer, Eur Urol 5 6 (2 0 0 9) 4 4 3 – 4 5 4

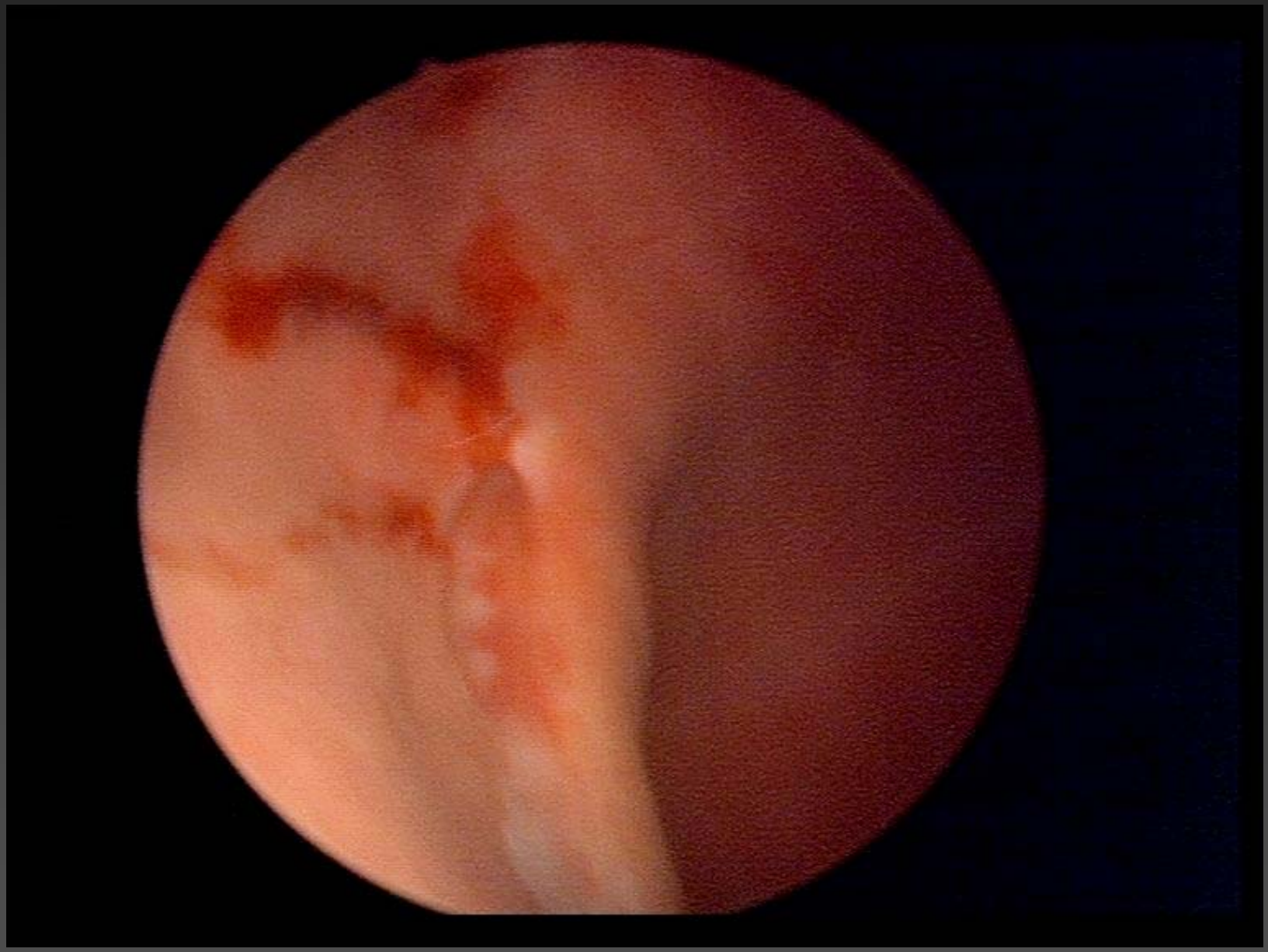


Stenzl A, Harnblasenkarzinom – Ein Leitfaden für die Praxis, Thieme-Verlag, 2012

Access upper urinary tract







WHO Consensus Conference 2007

Urodynamic and urine culture results in neobladder patients with or without enuresis

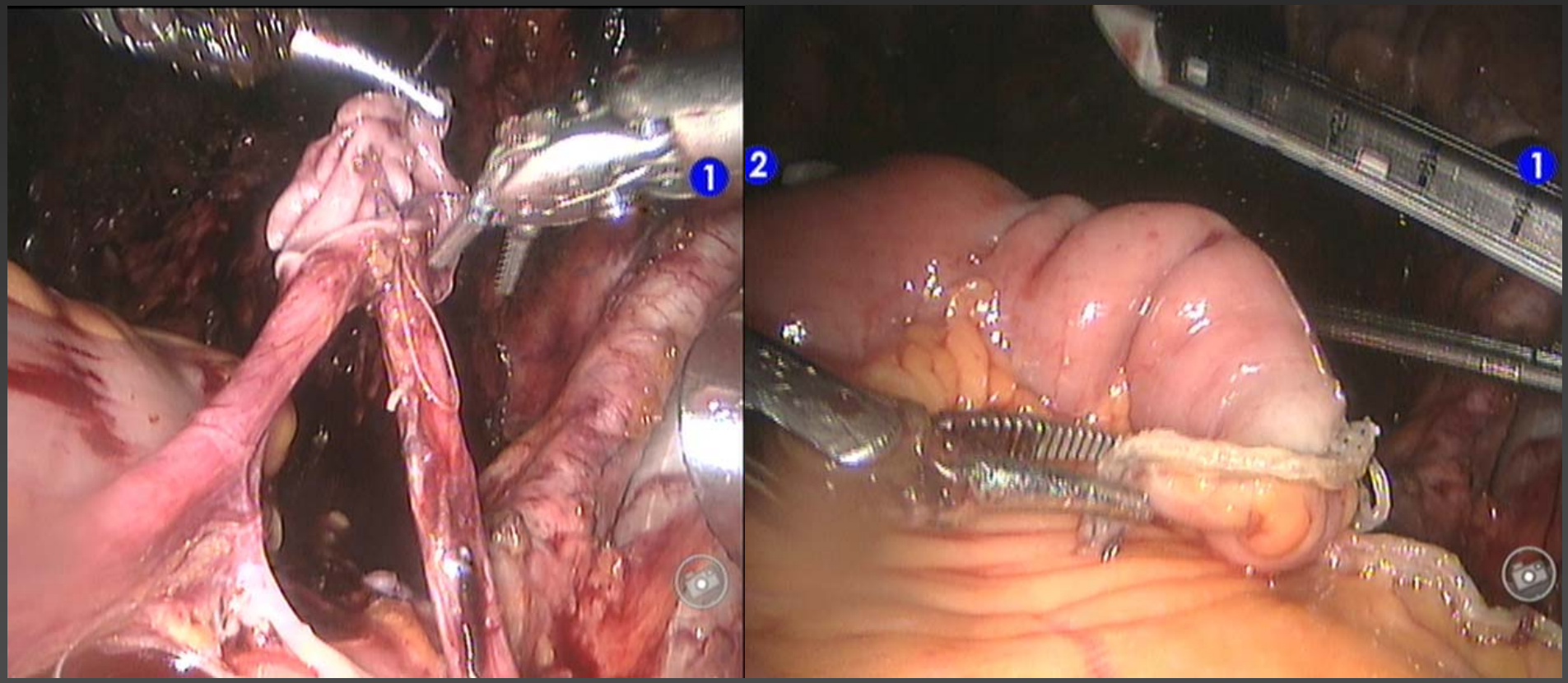
Nighttime continence after orthotopic urinary diversion

Urinary diversions performed by author

	No. of Cystectomies	Neobladder (%)	Cont. cut. Pouch (%)	Conduit (%)	UC/TUUC (%)	Anal (%)
Ann Arbor, MI	643	45.1	1.4	53.5	0.0	0.0
Bern, Switzerland	327	54.0	3.0	37.0	0.0	0.0
Dallas, TX	228	30.0	6.0	64.0	0.0	0.0
Kobe, Japan	87	46.0	2.3	10.3	41.4	0.0
Los Angeles, CA	1359	51.6	25.8	22.3	0.0	0.0
Lund, Sweden	119	28.6	31.1	40.3	0.0	0.0
Mansoura, Egypt	3157	39.1	3.5	34.4	0.0	23.1
Ulm, Germany	1209	66.2	0.5	22.6	8.9	1.5
Total	**7129**	**46.9**	**7.6**	**32.7**	**2.0**	**10.6**

Study	Configuration	Satisfactory	Follow-up
Alcini et al (1993)	Ileocecal	89	36

Robotic intracorporeal diversion

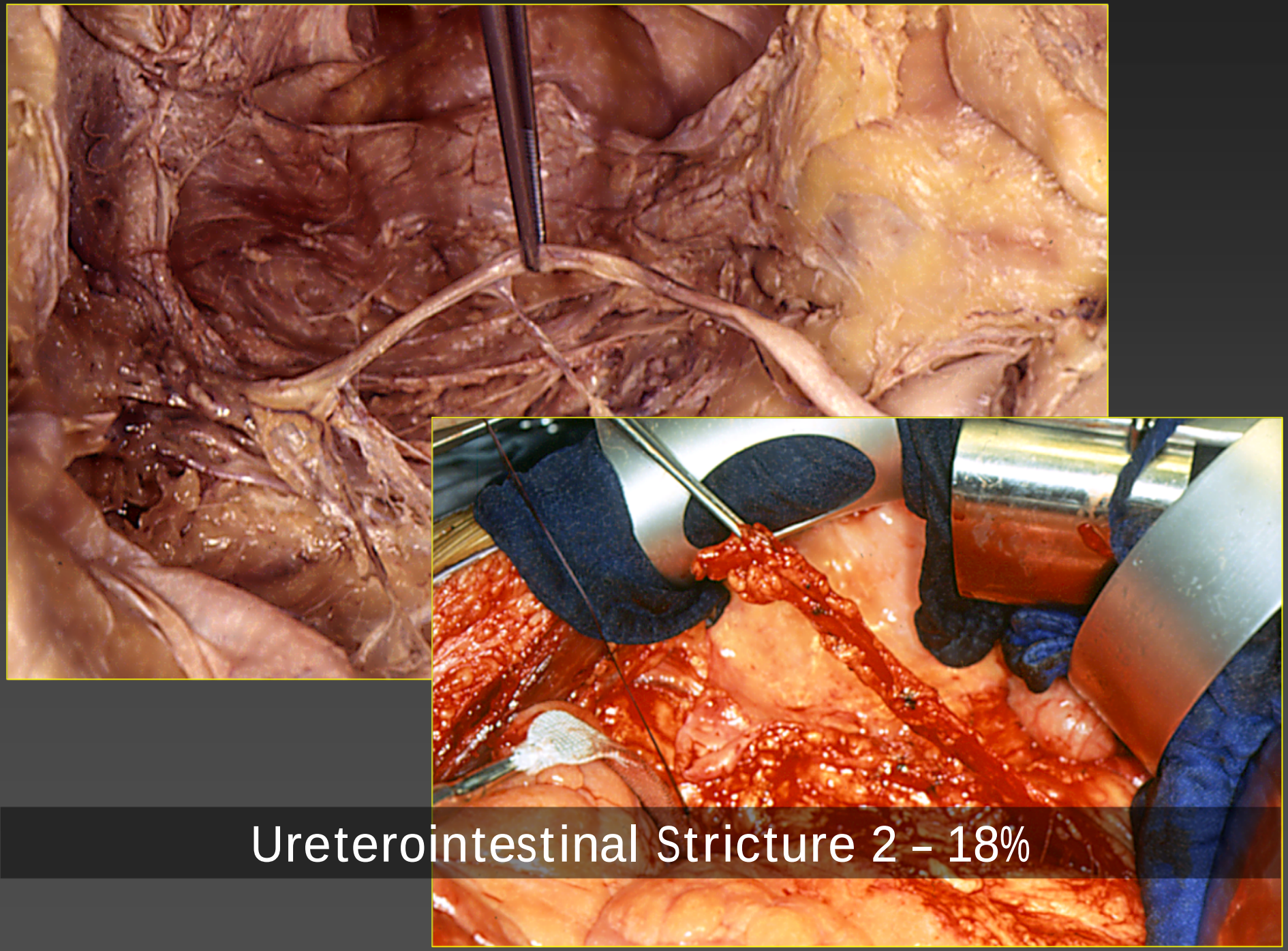


Ureteral implantation and intestinal astomosis

	30 d			90 d		
	Open	Robotic	*p* value	Open	Robotic	*p* value
Patients, no.	104	83	–	104	77	–
Complications, no.	161	55	–	201	81	–
Types of complications:						
1: Surgical, no. (%)	0 (0)	0 (0)	–	0 (0)	0 (0)	–
2: Wound, no. (%)	14 (8.7)	5 (9.1)	1.0	16 (8.0)	5 (6.5)	0.8
Cellulitis	9	4		11	4	
Dehiscence	5	1		5	1	
3: Pulmonary, no. (%)	14 (8.7)	0 (0)	0.023	14 (7.0)	1 (1.2)	0.07
Respiratory failure	6	0		6	0	
Pneumonia	7	0		7	1	
Pneumothorax	1	0		1	0	
4: Neurologic, no. (%)	5 (3.1)	0 (0)	0.33	5 (2.5)	0 (0)	0.32
Encephalopathy	1	0		1	0	
CVA	4	0		4	0	
5: Gastrourinary, no. (%)	10 (6.2)	4 (7.3)	0.76	14 (7.0)	10 (12.3)	0.15
Renal failure	7	2		9	4	
Ureteral obstruction	1	2		2	3	
Urinary fistula	1	0		2	1	
Urinary leak	1	0		1	2	
6: ID, no. (%)	39 (24.2)	17 (30.9)	0.37	64 (31.8)	26 (32.1)	1.0
Fever of unknown origin	3	2		5	1	
UTI	9	8		17	14	
Intra-abdominal abscess	11	4		20	5	
Bacteremia/septicemia	1	2		3	2	
Sepsis	12	0		15	2	
Parotitis	1	0		1	0	
Pyelonephrisits	2	1		2	1	
Fungemia	0	0		1	1	
7: GI, no. (%)	36 (22.4)	17 (30.9)	0.21	40 (19.9)	22 (27.2)	0.20
Ileus*	18	12		21	13	
SBO	3	1		3	3	
Clostridium difficile colitis	4	3		5	2	
Hematemesis	0	1		0	1	
Duodenal erythema	1	0		1	0	
Failure to take PO/malnutrition	2	0		2	0	
GI bleeding	2	0		2	1	
Ascites	3	0		3	0	
Small bowel leak	2	0		2	0	
Enterocutaneous fistula	1	0		1	1	
Esophageal cadidiasis	0	0		0	1	
8: Cardiac, no. (%)	20 (12.4)	6 (10.9)	1.0	20 (10.0)	9 (11.1)	0.83
Atrial fibrillation	6	4		6	4	
SVT	2	1		2	1	

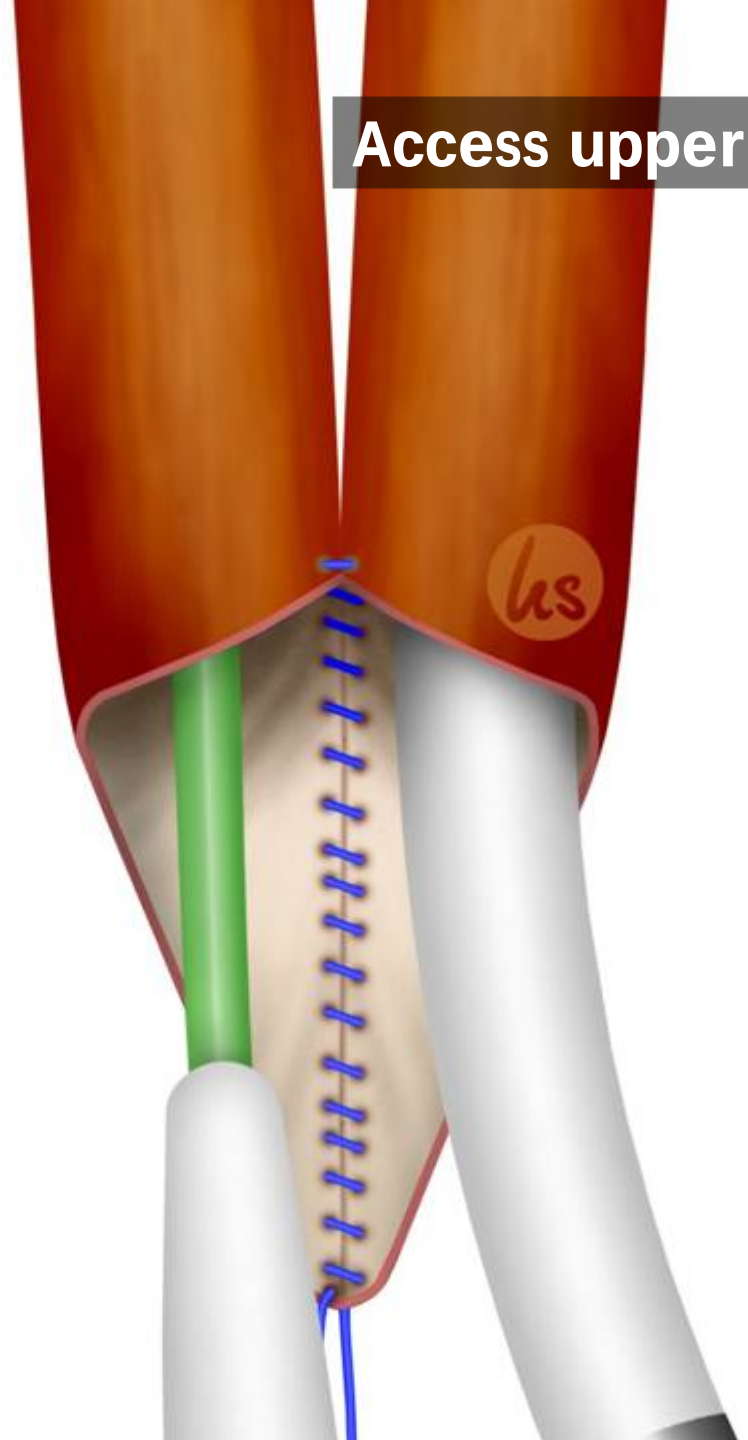
NG et al. Eur Urol , 57(2):274-81 2010

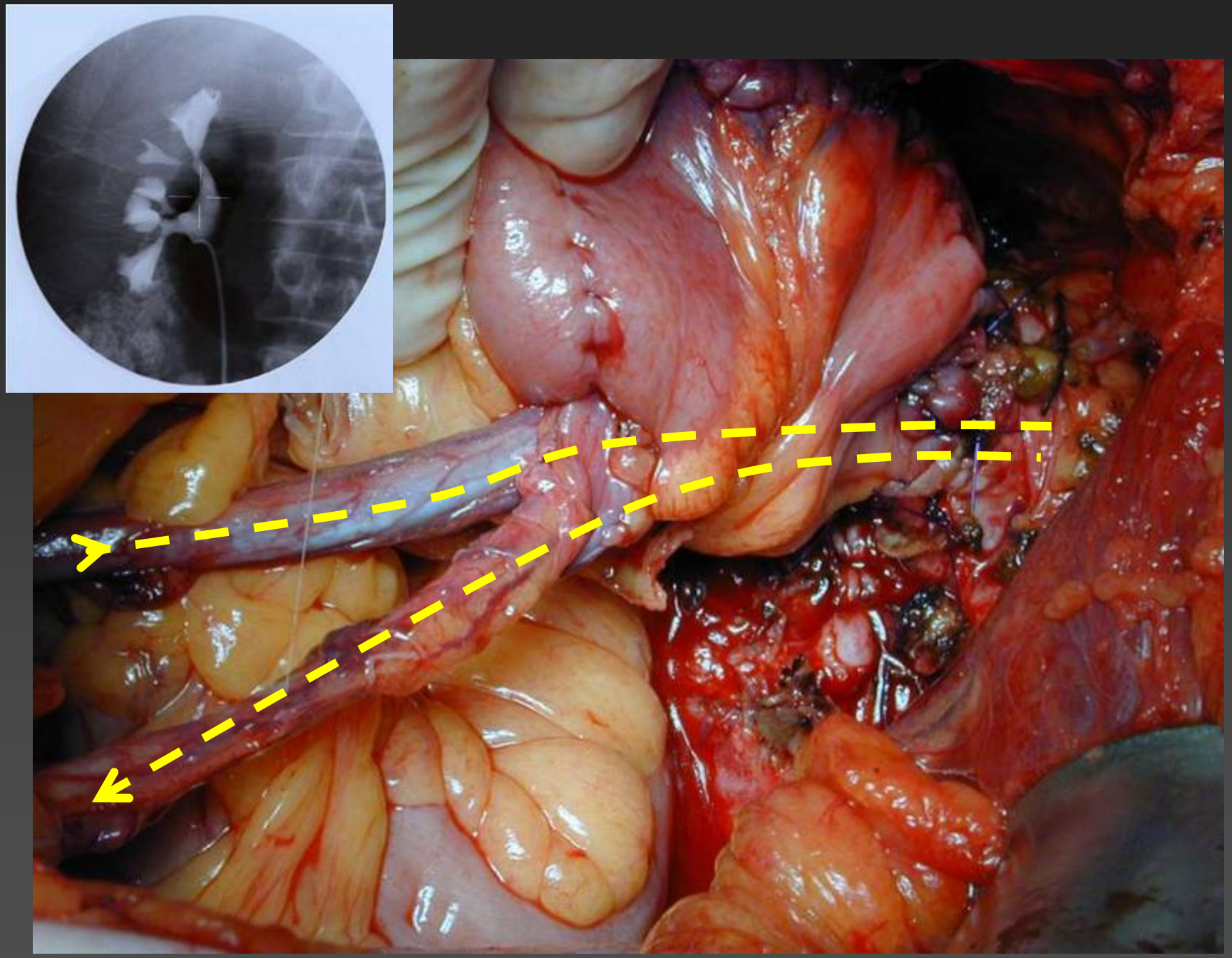
What might go wrong ...



Ureterointestinal Stricture 2 – 18%

Access upper urinary tract

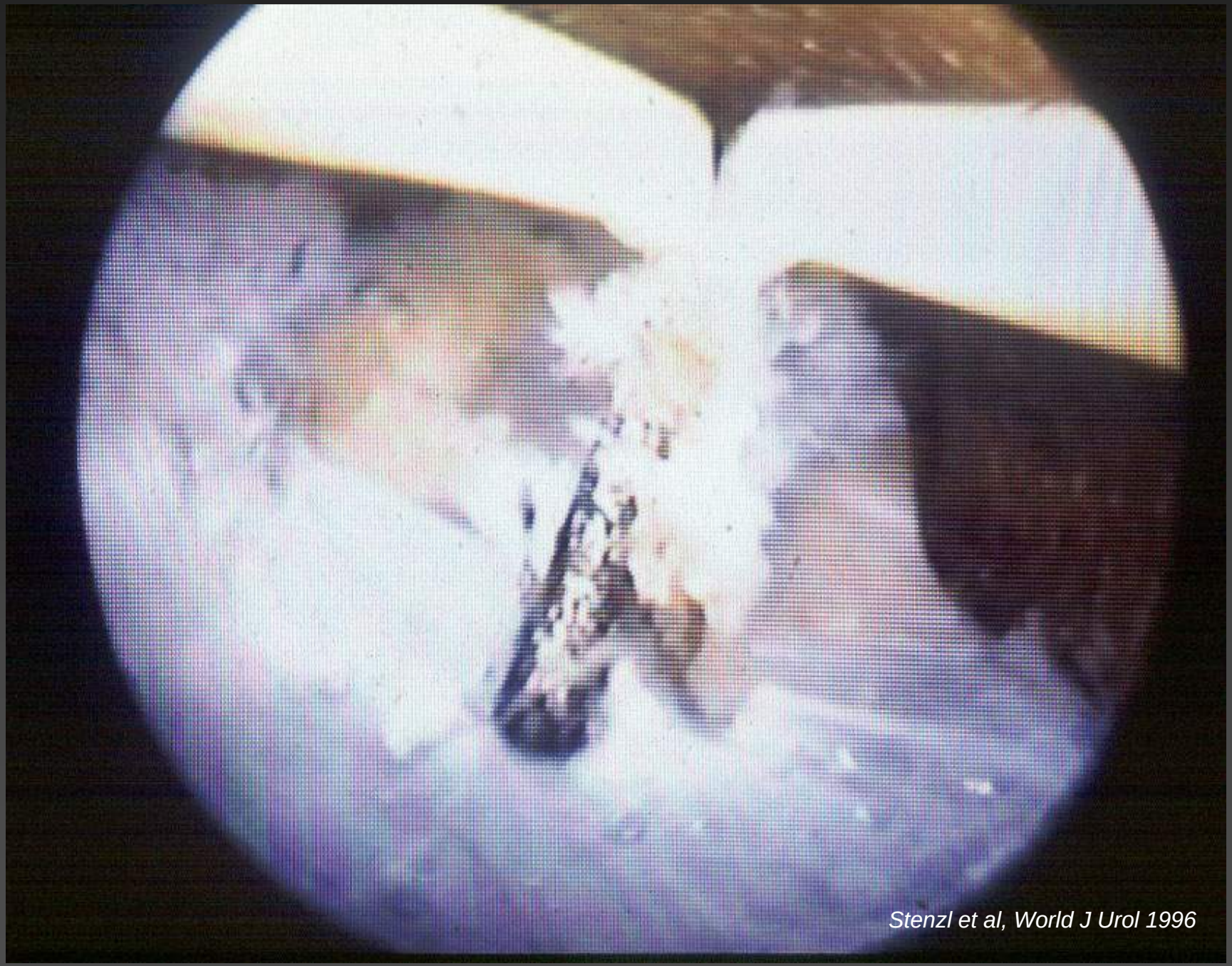


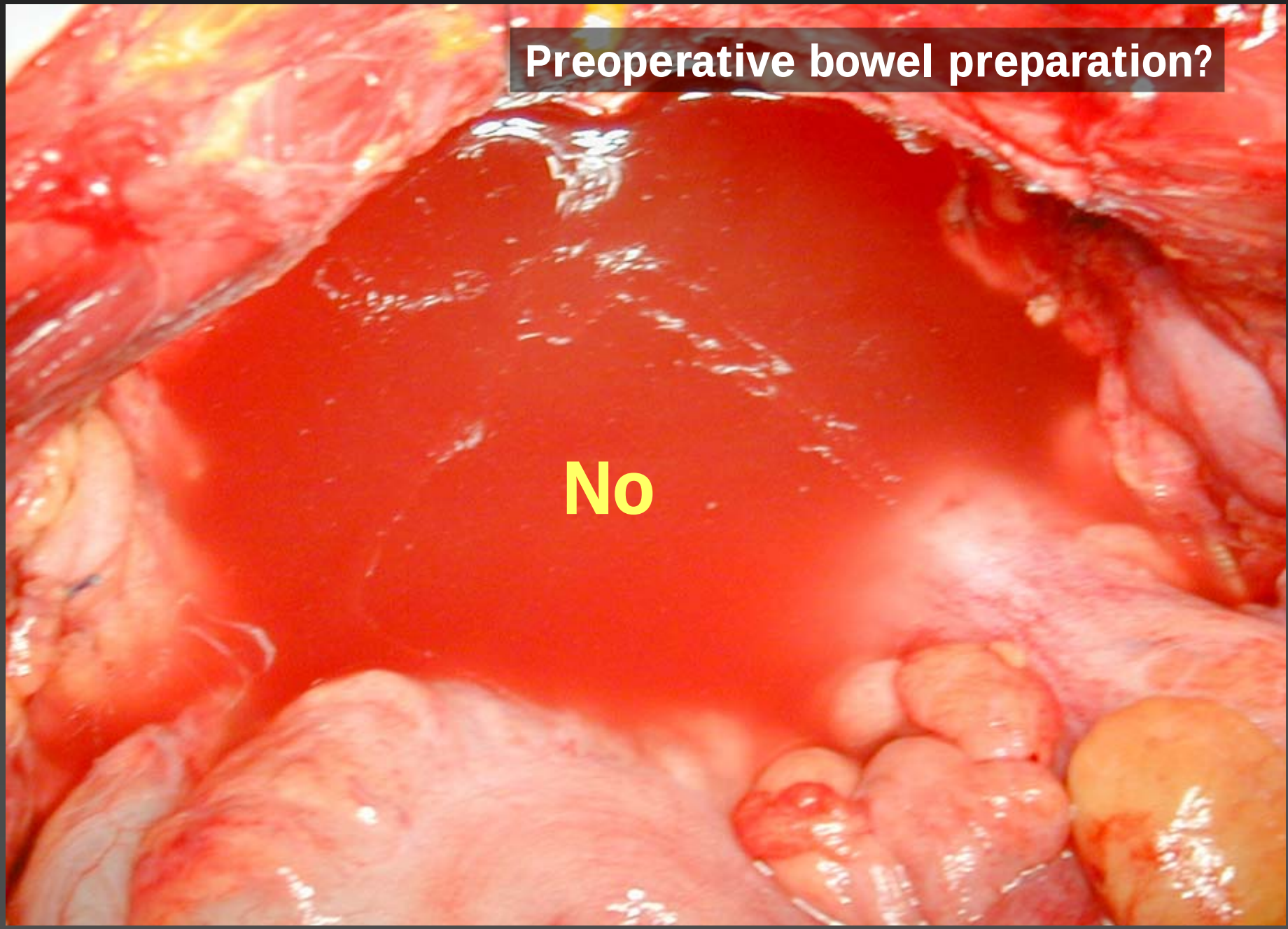


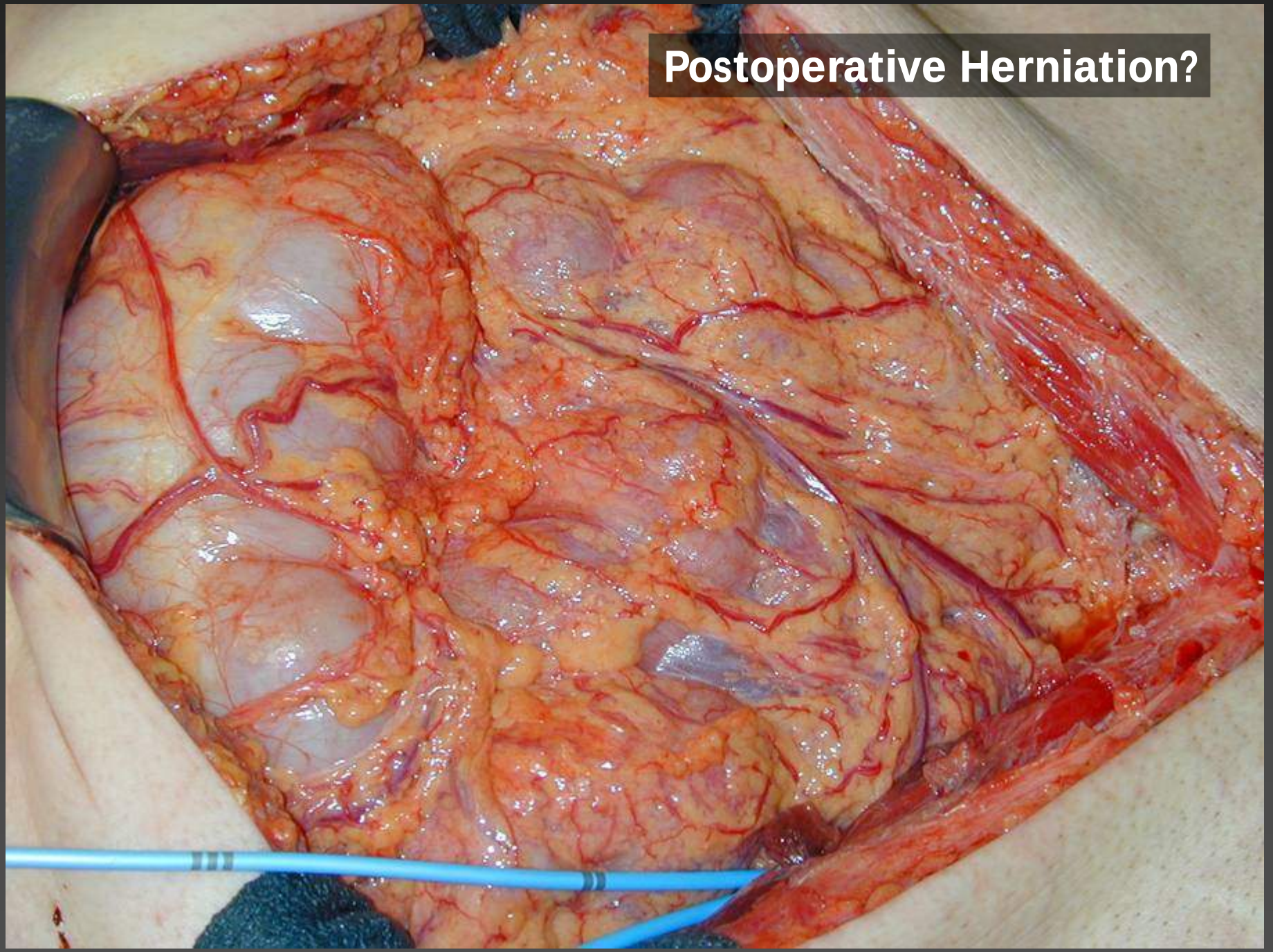
Upper Tract Recurrences After Cystectomy

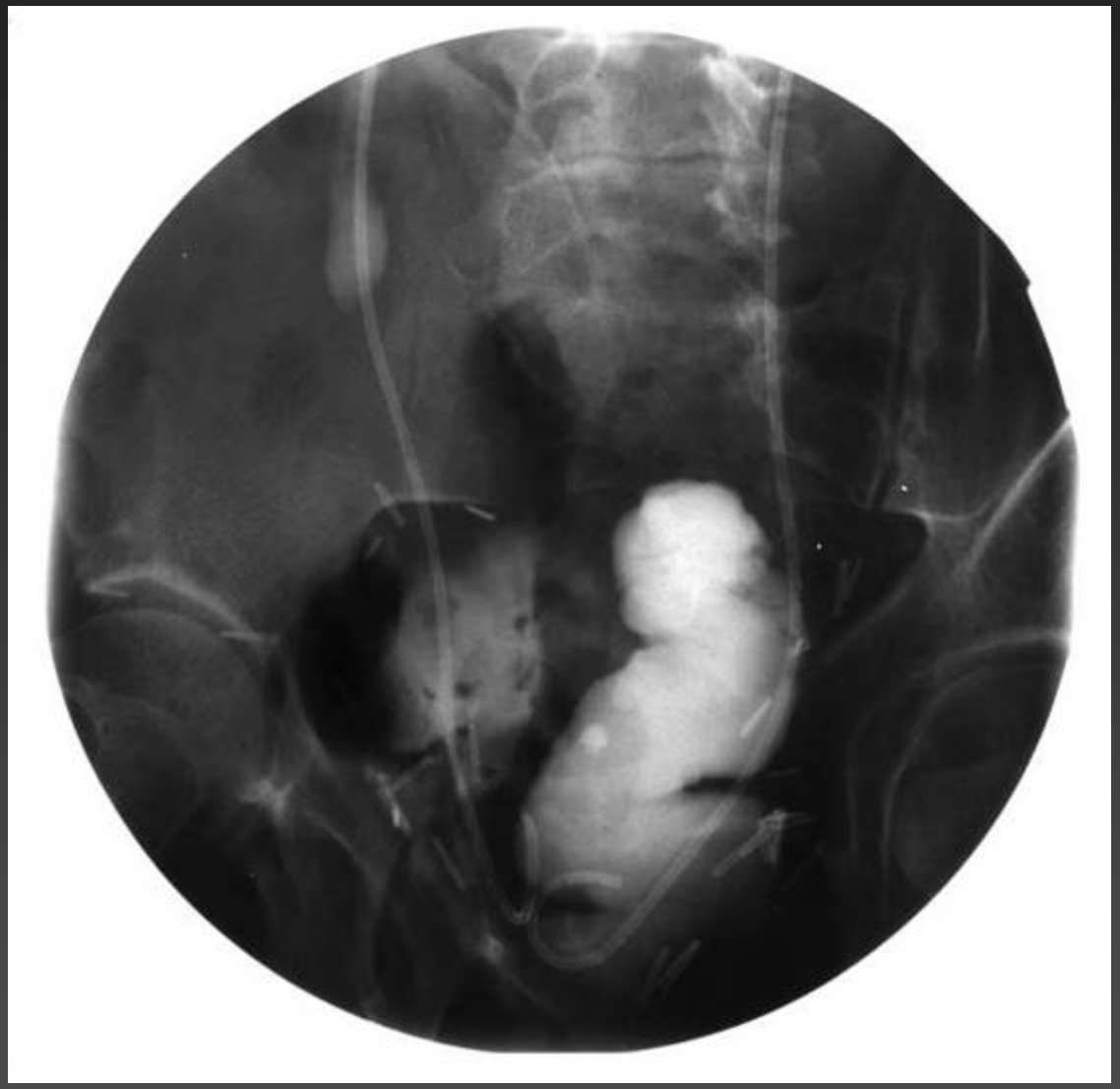
Author [Ref.]	No. of Patients	No. of Upper Tract Recurrences (%)	Interval to recurrence (months)
Balaji 1999 100	529	16 (3)	median 37.2
Slaton 1999 106	382	9 (2.4)	median 25
Solsona 1997 98	179 * 46**	7 (3.9) 8 (17.4)	mean 28.3 mean 18.3
Tsuji 1996 99	61	4 (6.5)	mean 69
Kenworthy 1996 94	430	11 (2.6)	median 40
Schwartz 1992 91	638	20 (3.1)	mean 8
Hastie 1991 93	180	10 (5.5)	mean 44
Malkowicz 1990 95	220	5 (2.4)	22 - 54
Zincke 1984 89	425	14 (3.3)	mean 40

Stenzl et al., Eur Urol 2001

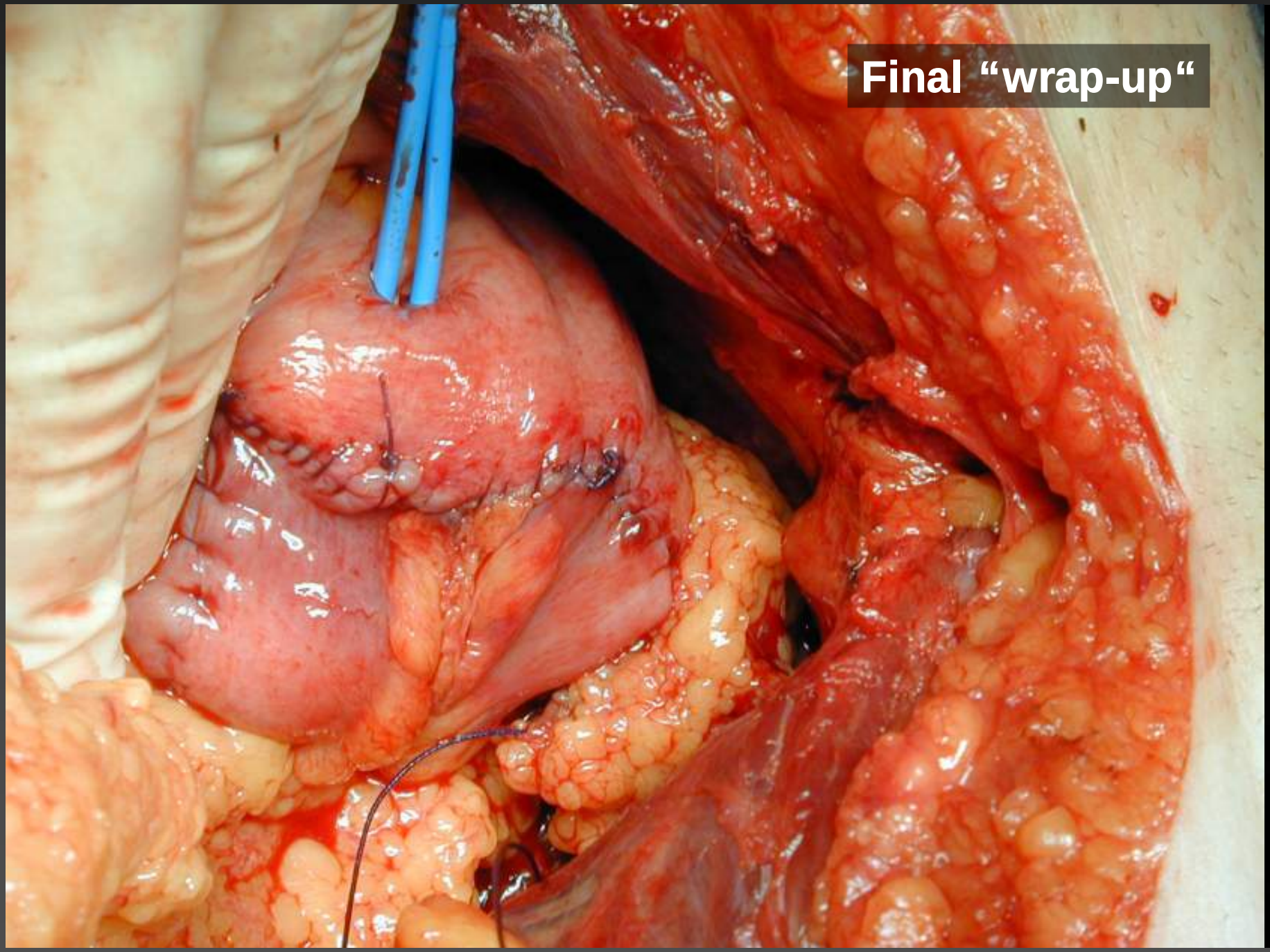

Stenzl et al, World J Urol 1996

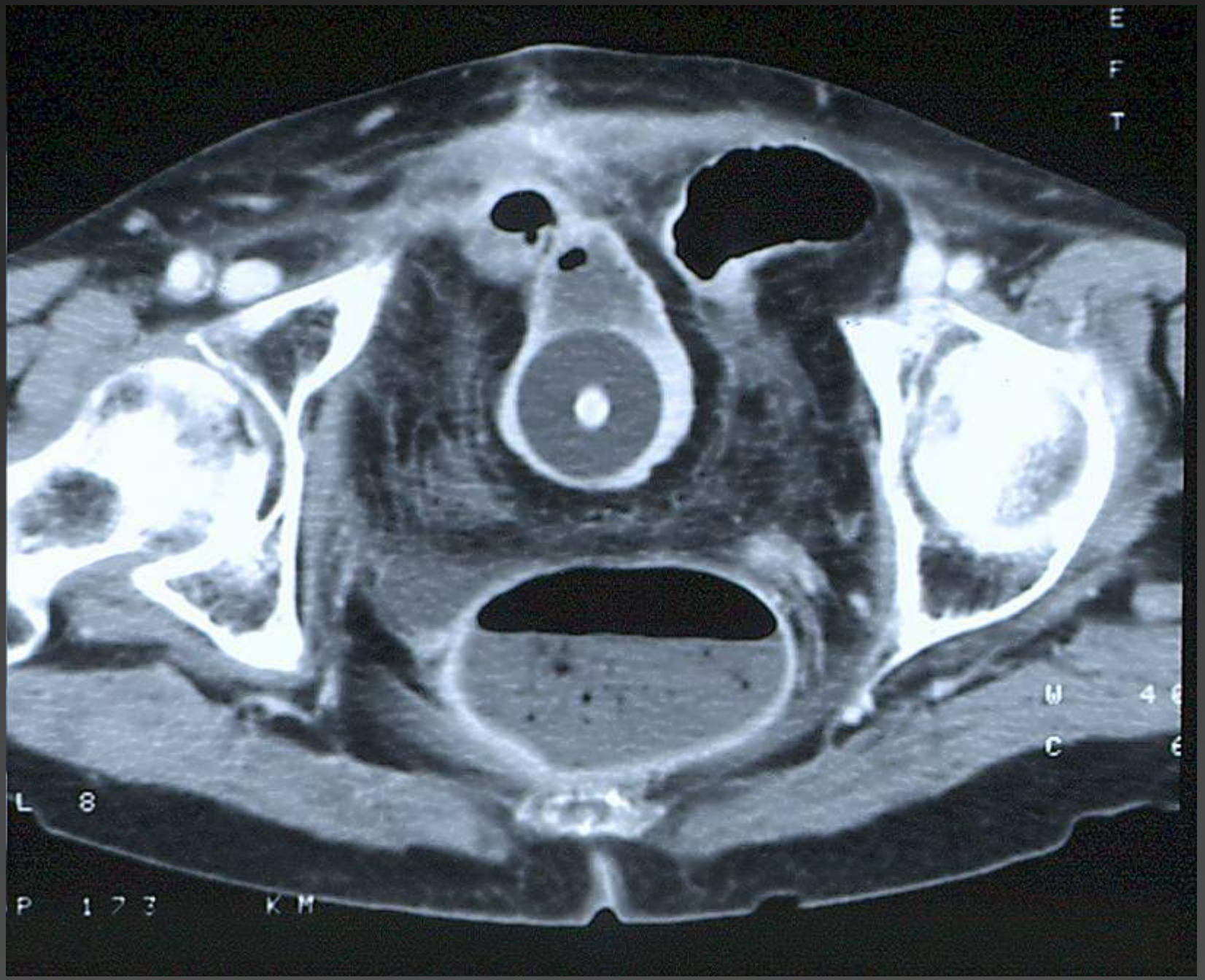

Preoperative bowel preparation?
No


Postoperative Herniation?



Intestinal fistula
Vesicovaginal Fistula


Final “wrap-up“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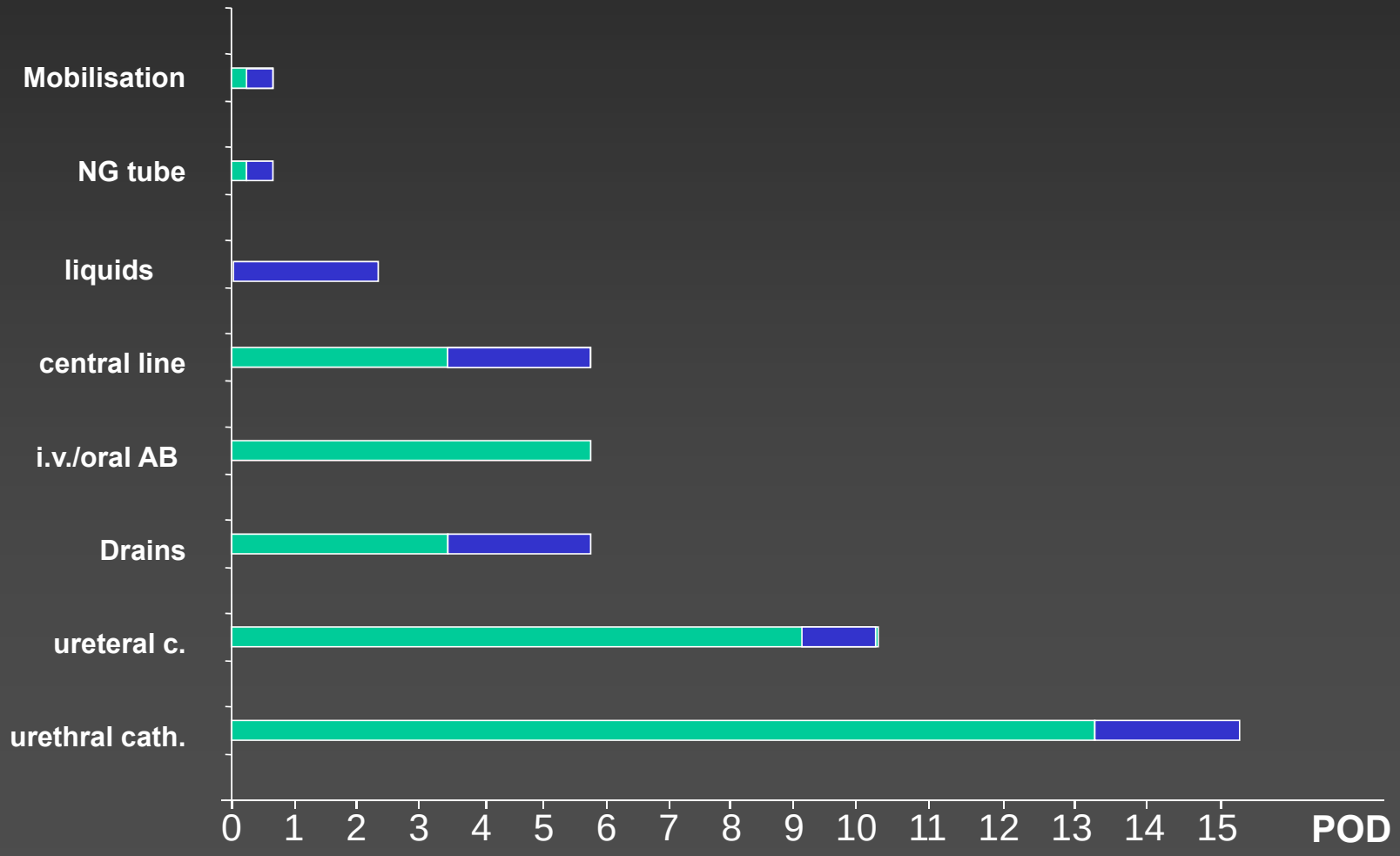
Bladder Replacement - postoperative management



In-hospital /total mortality

within 30 days of cystectomy/urinary div.

Volume bands	In-hospital mortality	Total mortality
Institutional volume:		
Low	85 (2.8)	90 (3.0)
Medium	82 (3.0)	90 (3.2)
High	56 (2.0)	66 (2.4)
Surgeon volume:		
Low	86 (2.8)	92 (3.0)
Medium	74 (2.9)	81 (3.2)
High	52 (1.9)	62 (2.3)

Mayer et al., BMJ 2010;340

- Age >75
- Comorbidity score
- Teaching status
- Total # operations
- Nurse/bed ratio