Napoli
SURGERY

NAPOLI 27 – 28 SETTEMBRE
Aula Magna Scuola di Medicina di Scampia
Centro Congressi Università degli Studi di Napoli Federico II
Via Valerio Verbano Snc, Scampia - Napoli

LE UROSTOMIE

GIORGIO NAPODANO

Ospedale del mare

Derivazioni urinarie

temporanee

definitive

interne

esterne

continenti

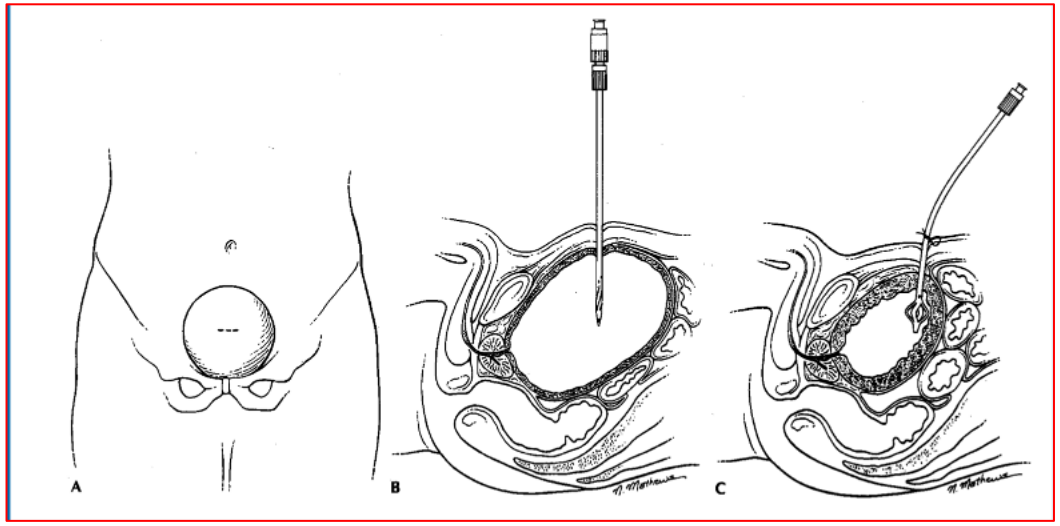
incontinenti

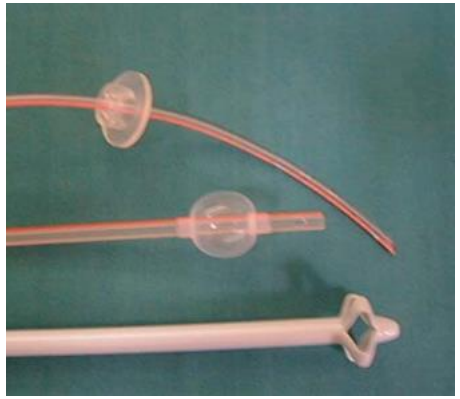
Derivazioni urinarie

temporanee

esterne

CISTOSTOMIA





Gestione?
- **medicazione**
- **sostituzione**
- **lavaggi**

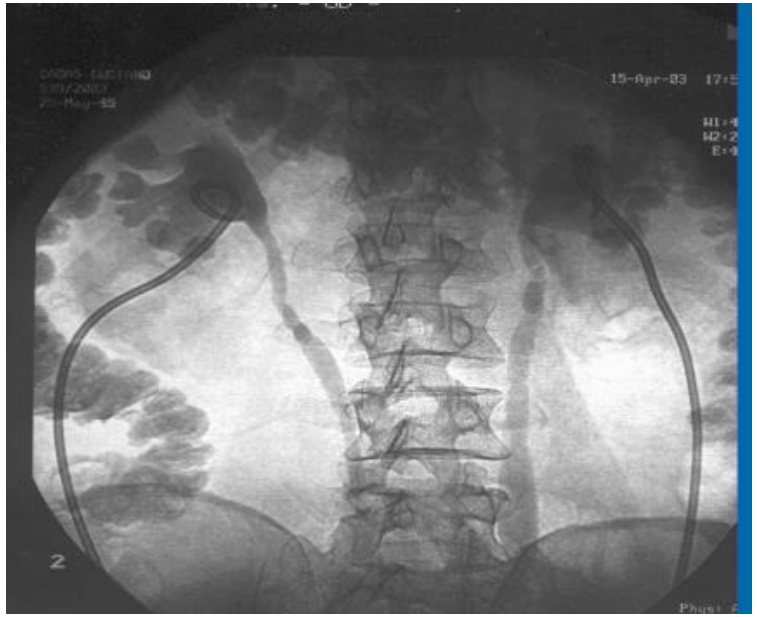
Foley
Punta pig tail
Punta Malecot
Catetere di Bracci

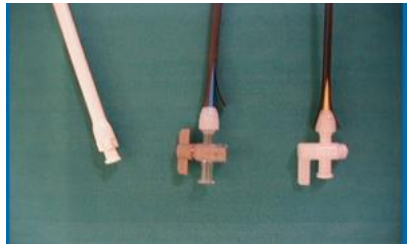
Derivazioni urinarie

temporanee

esterne

NEFROSTOMIA





- pig tail
- autostatica
- malecot

Gestione?

- medicazione

- sostituzione

- lavaggi

Derivazioni urinarie

definitive

esterne

interne

- *DOPO CISTECTOMIA*
- *Patologia maligna o benigna*

Bernhard Bardenheuer's (1839–1913) contribution to the development of modern urology

F Moll, R Dülfer, J Bötel and **F J Marx**

Cologne, Germany

Keywords: urology; Bernhard Bardenheuer; cystectomy; nephrectomy

Figure 1. Bernhard Bardenheuer at the age of 70, circa 1909. (Author's collection.)

Figure 2. Cologne's Citizens' Hospital, circa 1865, with the coat of arms of Cologne. (Detail of a certificate; courtesy of the Cologne Citizens' Museum.)

Historically, the first cystectomy was performed by Bernhard Bardenheuer (1839-1913) in January, ***1887 in Koln, Germany***.

2003

The first robot-assisted radical cystectomy was described, and realized by Menon et al. in 2003.

Nerve-sparing robot-assisted radical cystoprostatectomy and urinary diversion

M. MENON, A.K. HEMAL, A. TEWARI, A. SHRIVASTAVA, A.M. SHOMA*, N.A. EL-TABEY*, A. SHAABAN*, H. ABOL-ENEIN* and M.A. GHONEIM*

*Vattikuti Urology Institute, Henry Ford Hospital, Detroit, MI, USA and *Urology and Nephrology Center, Mansoura, Egypt*

Accepted for publication 22 April 2003

Between April 2002 and February 2003, 14 men and three women with TCC of the bladder underwent RRCP using the daVinci TM surgical system (Intuitive Surgical, Sunnyvale, CA, USA).

In most cases, the urinary system was reconstructed by a second surgical team with extensive experience in open cystectomy.

The mean operative duration for the RRCP was 140 min, and the mean blood loss <150 mL. The operative duration for the ileal conduit and orthotopic neobladder were 120 min and 168 min, respectively. Surgical margins were negative in all cases; one patient had N1 disease.

One patient was re-explored for bleeding. While no active bleeding point was seen, there was a port-site haematoma, and oozing at the site of the urethro-neovesical anastomosis (constructed using open surgery in this instance).

Derivazioni urinarie

definitive

interne

continenti

Urologia Internationalis

Urol Int 1998;60:1–10

Received: June 27, 1996
Accepted after revision: May 6, 1997

History of Urinary Diversion

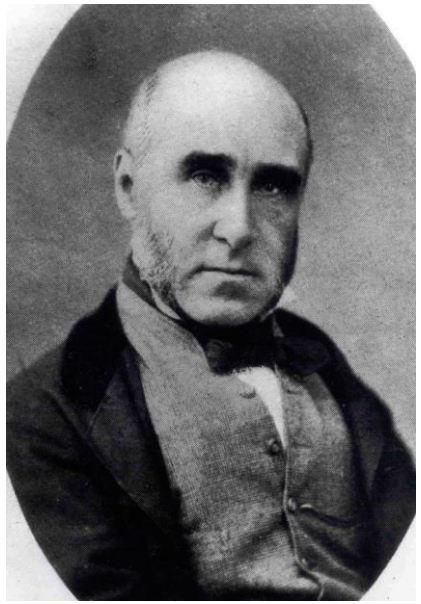
Jürgen Pannek
Theodor Senge

Department of Urology, Ruhr University, Bochum, Germany

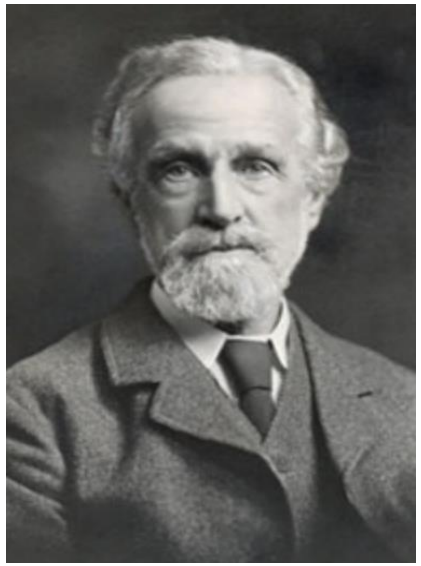
Table 1. Ureterosigmoidostomy

Year	Author	Event
1851	Simon [1]	first urinary diversion
1878	Smith [3]	first direct ureterointestinal implantation
1892	Maydl [7]	implantation of the entire trigone into the sigmoid
1896	Fowler [9]	first antireflux ureterointestinal implantation
1911	Coffey [16]	first successful antireflux ureterointestinal implantation
1951	Leadbetter [22]	first ureterointestinal implantation avoiding reflux and stenosis

- Peritonitis
- Uremia
- hyperchloremic metabolic acidosis (80%)

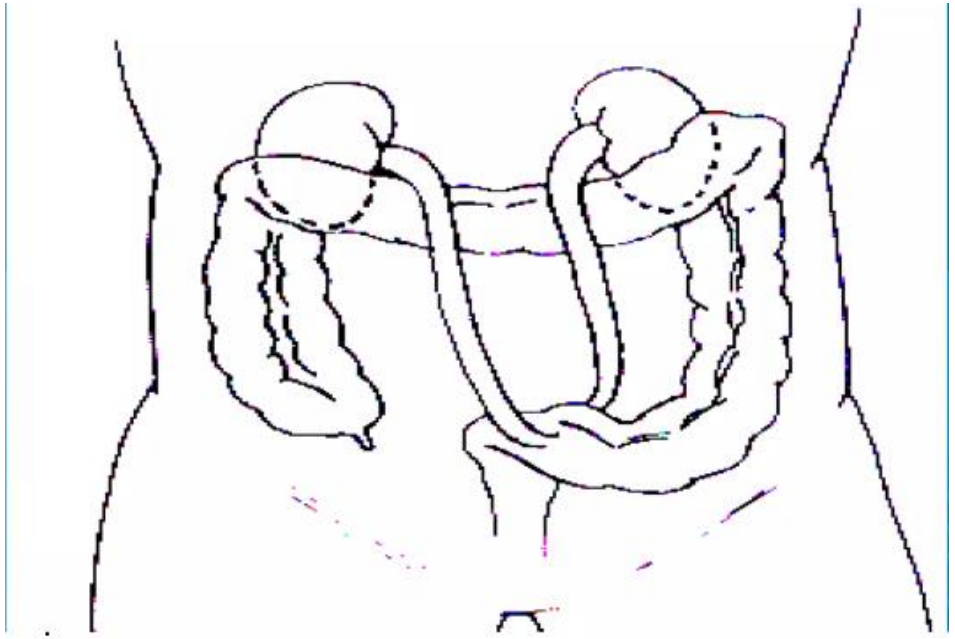


In 1852, Sir John Simon (London) performed the first ureteroproctostomy in a 13-year-old boy. In the postoperative course, the boy suffered from recurrent fever. After temporary improvement, he died of peritonitis 1 year after surgery.

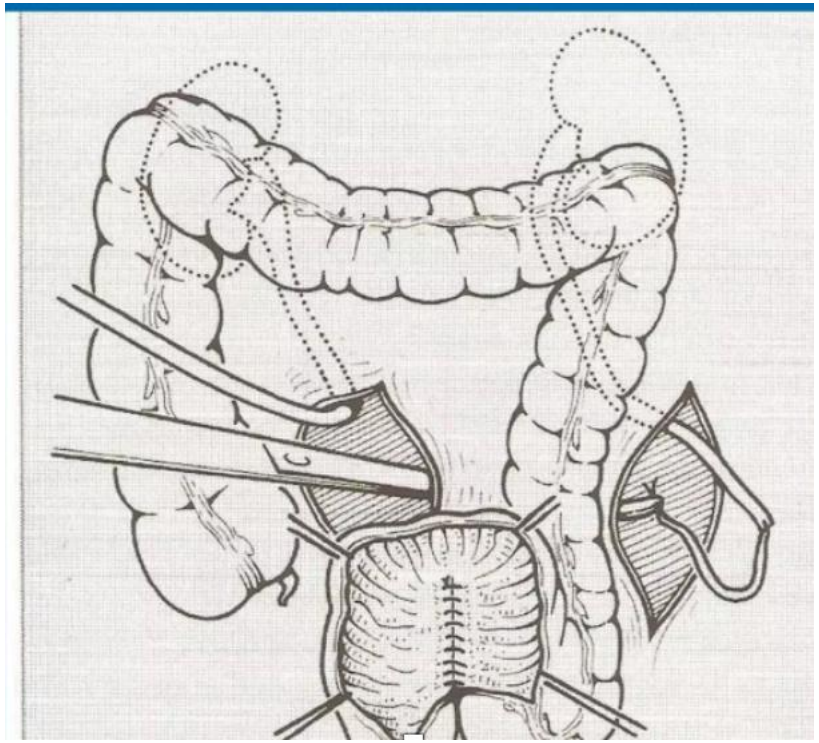


In 1878, Thomas Smith described the first direct ureterointestinal implantation in a 7-year-old boy. The patient later died of uremia secondary to stenosis of both ureters.

Ureterosigmoidostomia

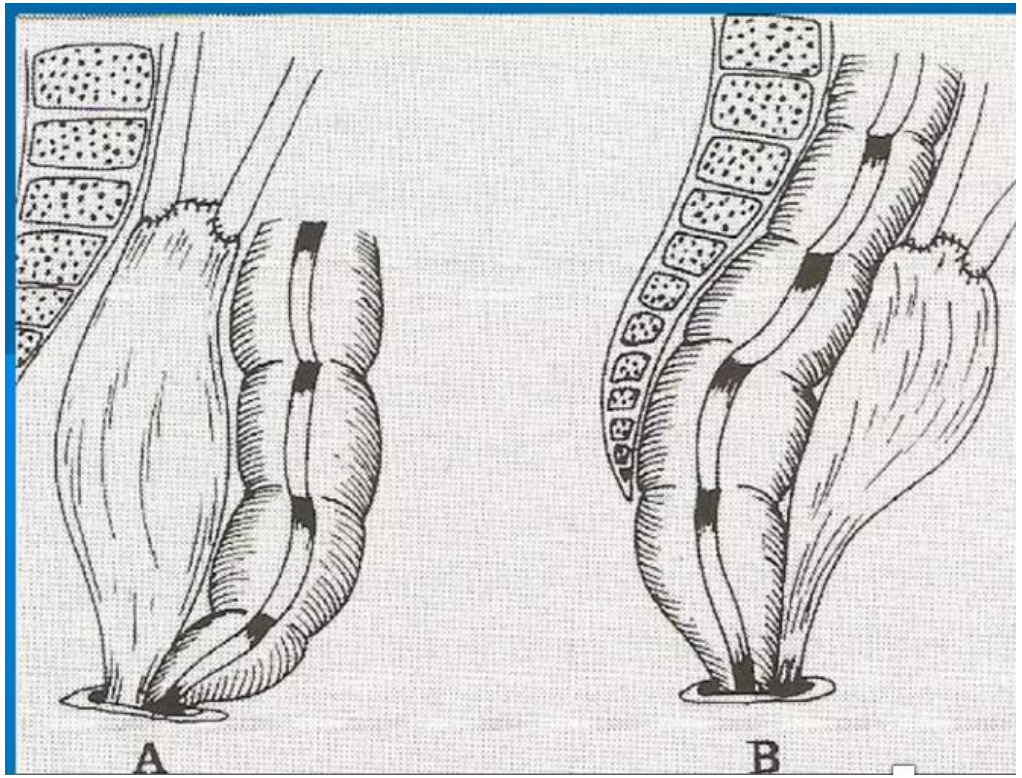


Mainz II Pouch

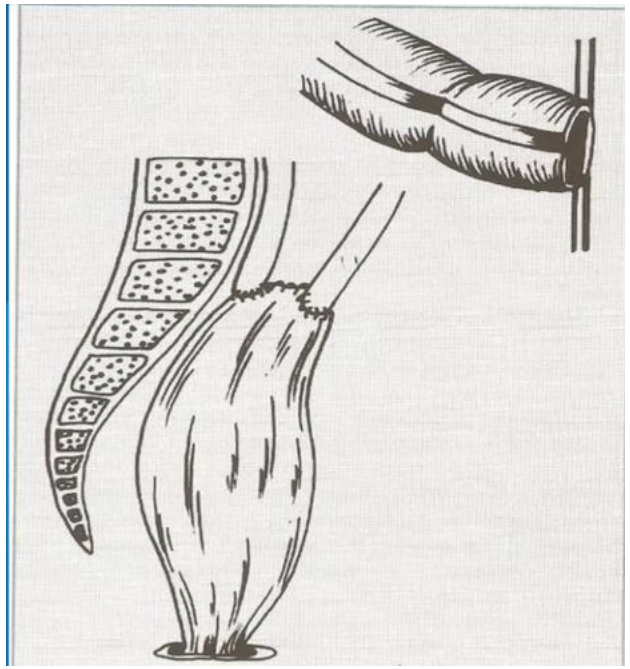


Gersuny

Hovelaque-Boyer



Mauclair



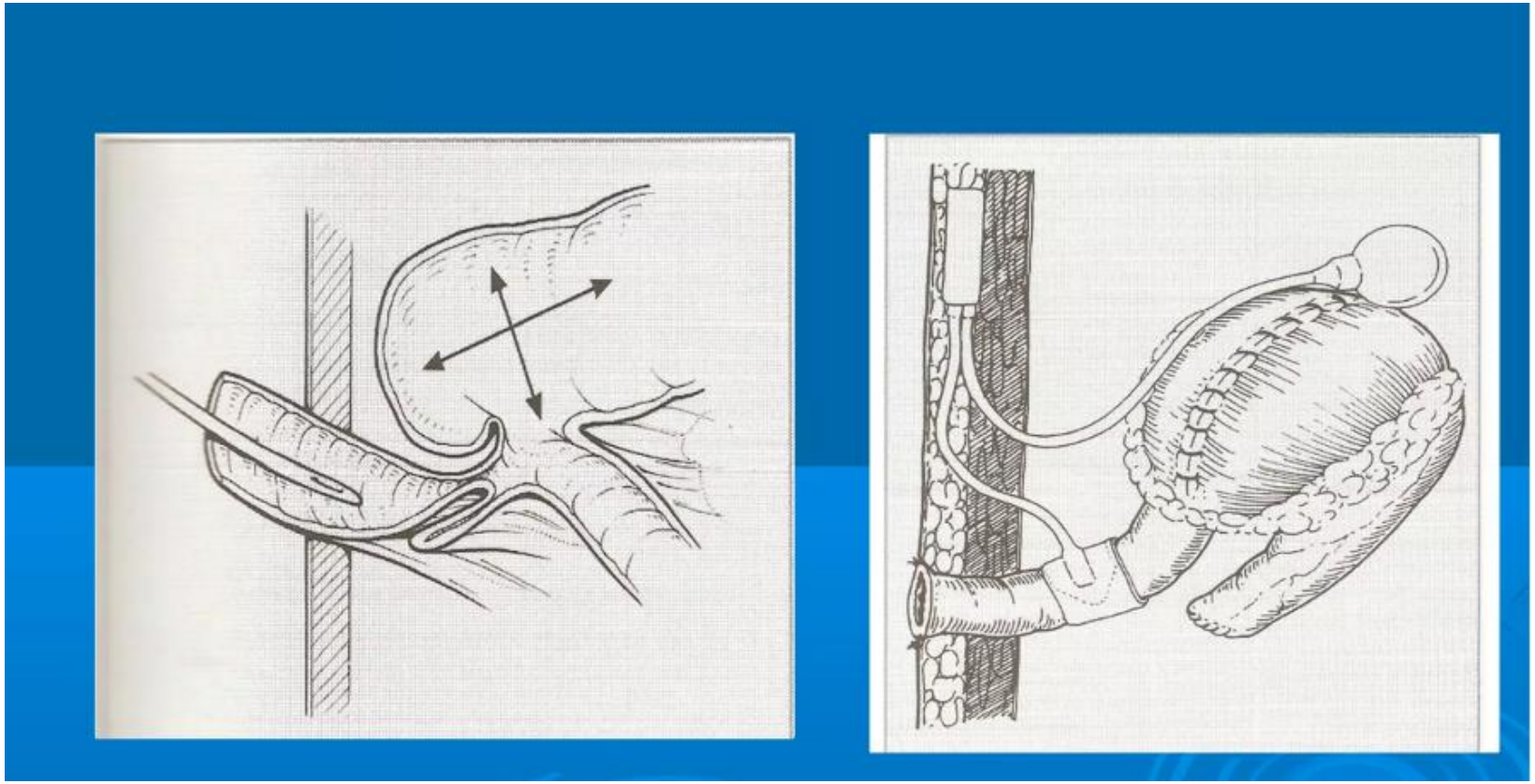
Derivazioni urinarie

definitive

esterne

continenti

- Indiana pouch



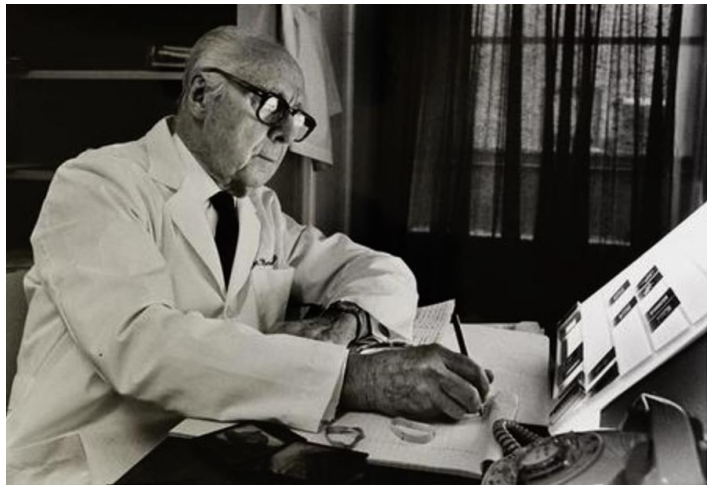
Derivazioni urinarie

definitive

esterne

incontinenti

- Uretero-cutaneostomia
- Condotto gastrico
- Condotto digiunale
- Condotto ileale
- Condotto ileo-cecale
- Condotto trasverso-colico
- Condotto sigmoideo
- Uretrostomia perineale



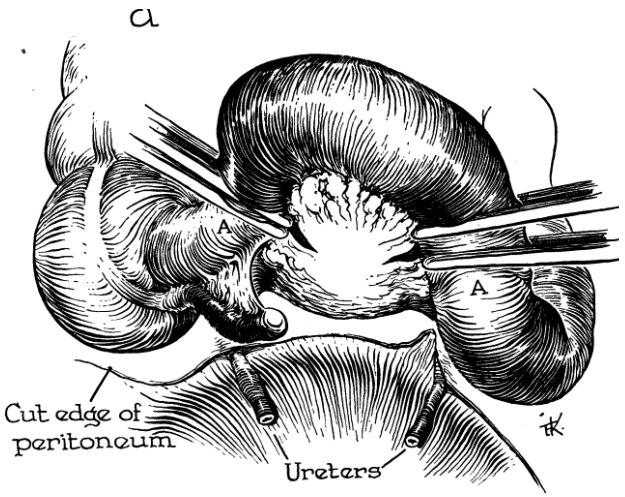
BLADDER SUBSTITUTION AFTER PELVIC EVISCERATION

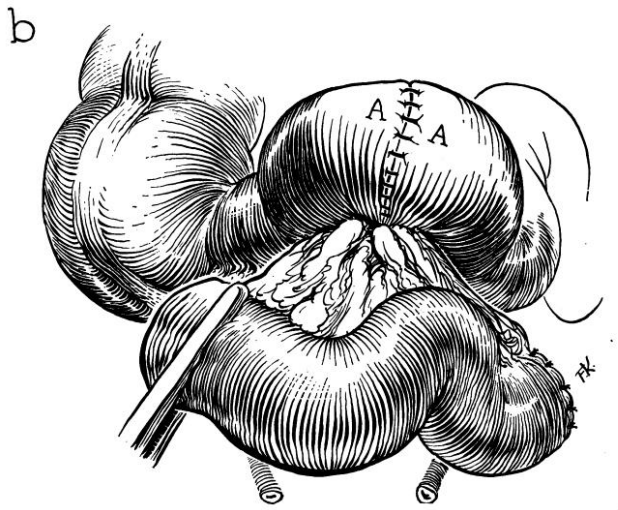
EUGENE M. BRICKER, M.D., F.A.C.S.*

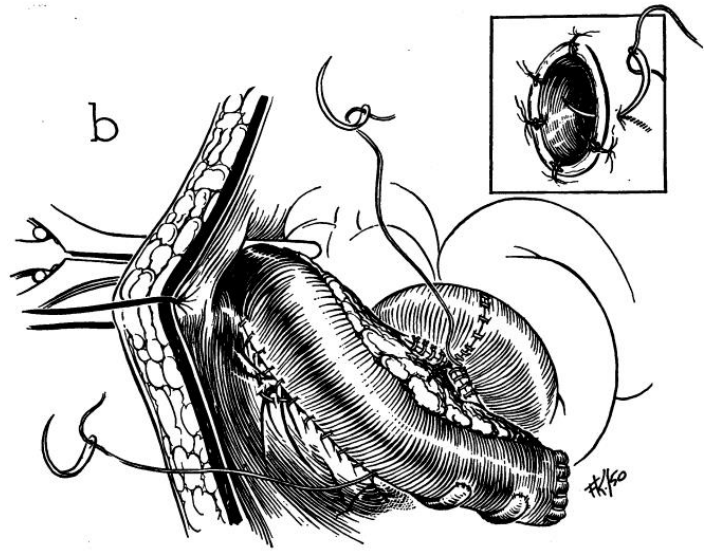
From the Department of Surgery, Washington University School of Medicine and Barnes Hospital, St. Louis.

* Associate Professor of Surgery, Washington University School of Medicine; Visiting Surgeon, St. Louis City Hospital; Assistant Surgeon, Barnes, St. Louis Children's and St. Louis Maternity Hospitals.

1950







Eugene M. Bricker established the use of the ileal conduit in **1950.** In his series of 307 cases, he described a mortality rate of 12.4%, of which only 3.4% was directly related to the urinary diversion.

As electrolyte disturbances, acidosis and pyelonephritis were far less frequent, the ileal conduit replaced the ureterosigmoidostomy as the standard form of urinary diversion.

Derivazioni urinarie

definitive

interne

continenti

Neovescica ortotopica

Urologia Internationalis

Urol Int 1998;60:1–10

Received: June 27, 1996
Accepted after revision: May 6, 1997

History of Urinary Diversion

Jürgen Pannek
Theodor Senge

Department of Urology, Ruhr University, Bochum, Germany

Table 4. Neobladders

Year	Author	Bowel segment	Detubularization	Eponym
1888	Tizzoni and Foggi [33]	ileum	no	(experimental)
1951	Couvelaire [35]	ileum	no	–
1958	Camey [37]	ileum	no	Camey bladder
1977	Rudick et al. [56]	stomach	yes	gastric bladder
1985	Hautmann et al. [82]	ileum	yes	ileal neobladder
1986	Light and Engelmann [89]	ileocolon	yes	Le Bag
1987	Tscholl et al. [85]	ileum	yes	S pouch
1987	Rigatti [91]	sigmoid colon	yes	–
1988	Marshall [90]	ileocolon	yes	–
1990	Pagano et al. [86]	ileum	yes	vescica ileale Padovana
1990	Iwakiri and Freiha [87]	ileum	yes	Stanford pouch bladder

- **In 1888**, Tizzoni and Foggi from Bologna described the replacement of the bladder after cystectomy in dogs.

- They anastomosed an isolated ileal loop with the ureters and the urethra.

Urologia Internationalis

Urol Int 1998;60:1–10

Received: June 27, 1996
Accepted after revision: May 6, 1997

History of Urinary Diversion

Jürgen Pannek
Theodor Senge

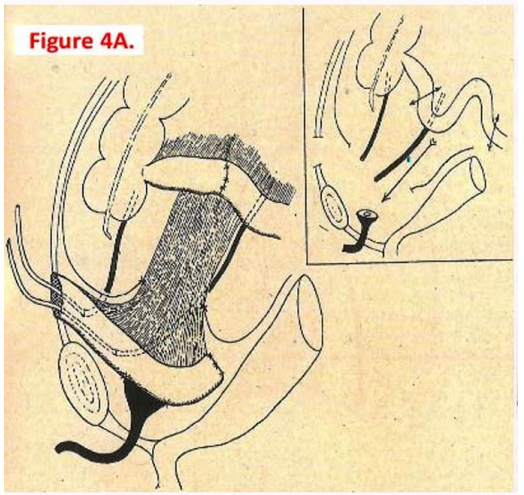
Department of Urology, Ruhr University, Bochum, Germany

1951

Table 4. Neobladders

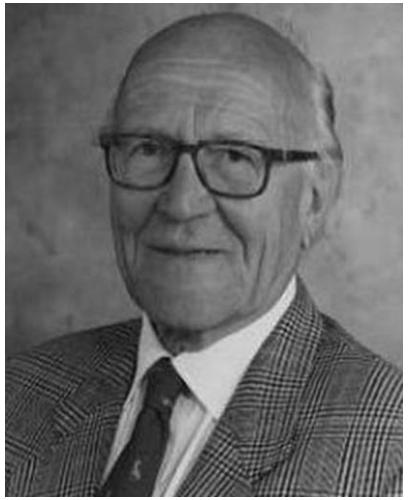
Year	Author	Bowel segment	Detubularization	Eponym
1888	Tizzoni and Foggi [33]	ileum	no	(experimental)
1951	Couvelaire [35]	ileum	no	–
1958	Camey [37]	ileum	no	Camey bladder
1977	Rudick et al. [56]	stomach	yes	gastric bladder
1985	Hautmann et al. [82]	ileum	yes	ileal neobladder
1986	Light and Engelmann [89]	ileocolon	yes	Le Bag
1987	Tscholl et al. [85]	ileum	yes	S pouch
1987	Rigatti [91]	sigmoid colon	yes	–
1988	Marshall [90]	ileocolon	yes	–
1990	Pagano et al. [86]	ileum	yes	vescica ileale Padovana
1990	Iwakiri and Freiha [87]	ileum	yes	Stanford pouch bladder

Couvelaire created for the first time a continent ileal bladder in a cystectomy patient in **1951**.



Urinary continence was compromised because of persistence of peristaltic activity and intermittent high pressure peaks.

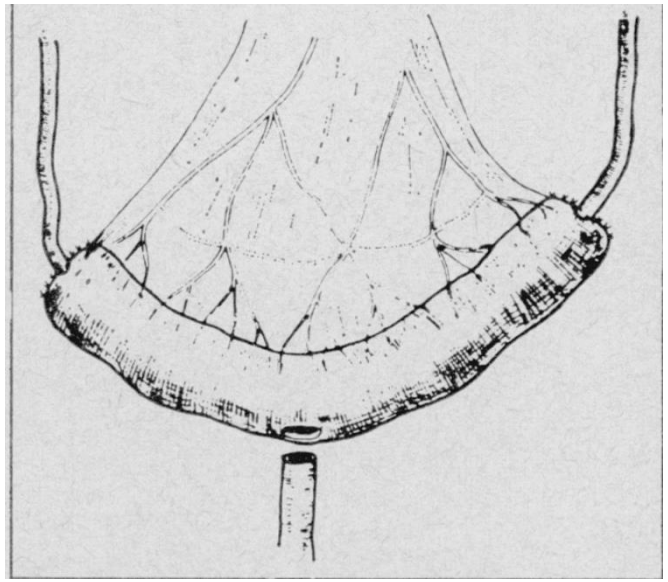
Detubularization (Kock, 1969)



Intra-abdominal "Reservoir" in Patients With Permanent Ileostomy

Preliminary Observations on a Procedure Resulting in Fecal "Continence" in Five Ileostomy Patients

Nils G. Kock, MD, Goteborg, Sweden



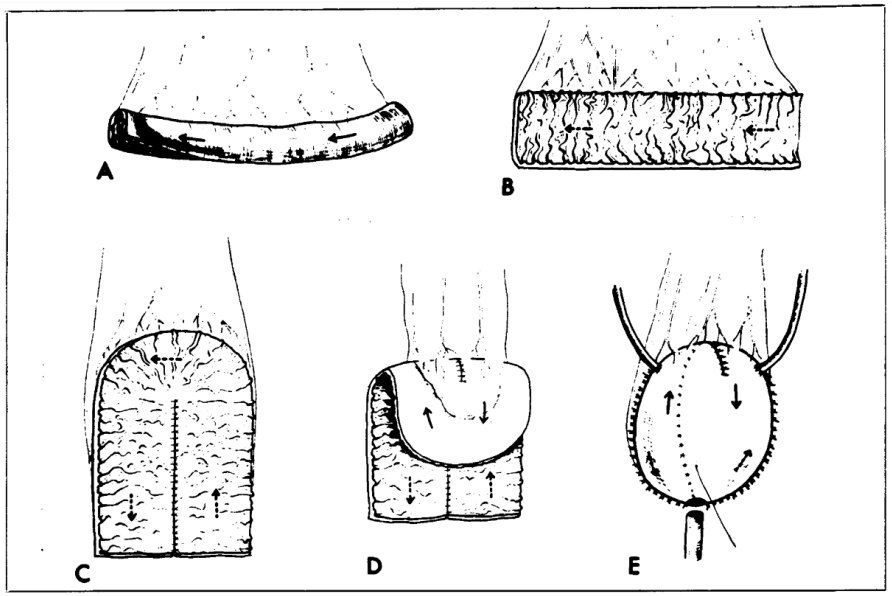
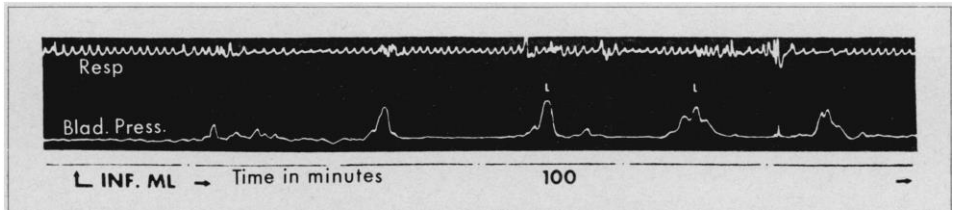
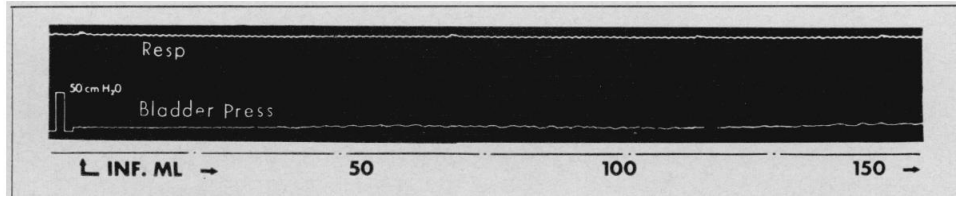


Fig 4.—Construction of ileal urinary bladder substitute given in outline. **A,** isolated segment of distal ileum; **B,** segment split open; **C,** split segment folded and legs sutured together; **D,** second folding; **E,** bladder substitute completed. **Arrows** indicate direction of peristaltic movements.

Fig 5.—Cystometrogram recorded in patient provided with ileal bladder substitute described in Fig 4.

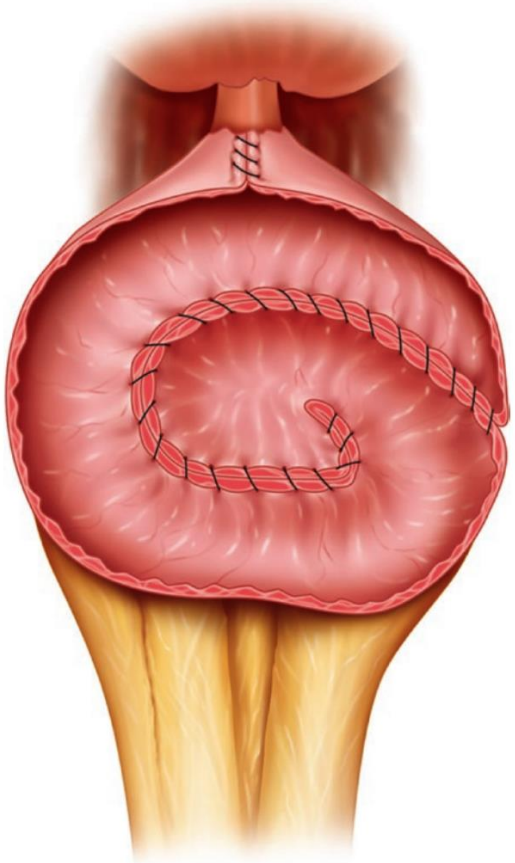
Fig 5.—Cystometrogram recorded in patient provided with ileal bladder substitute described in Fig 4.



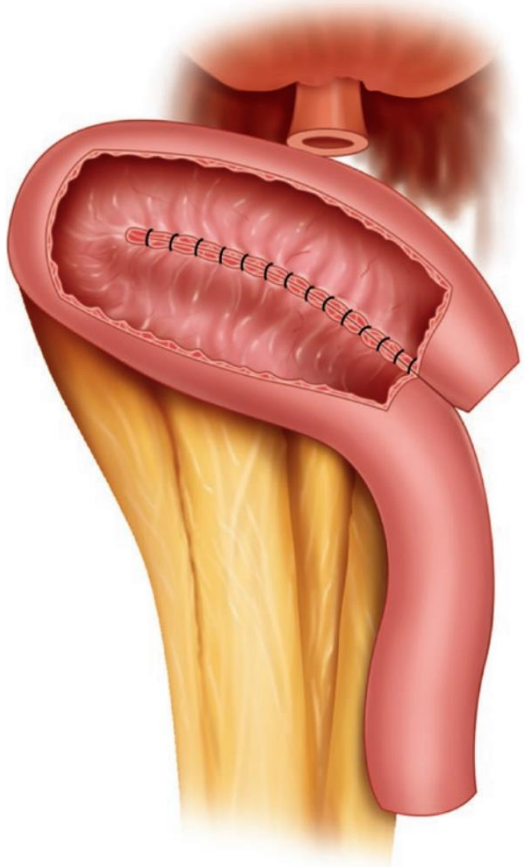


Orthotopic diversion gained much popularity only in the late 1980s.

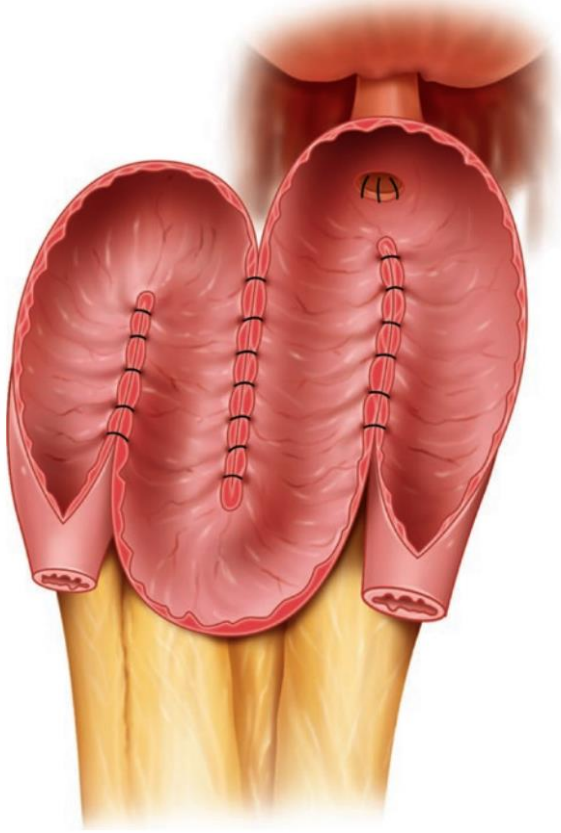
Vescica Ileale Padovana



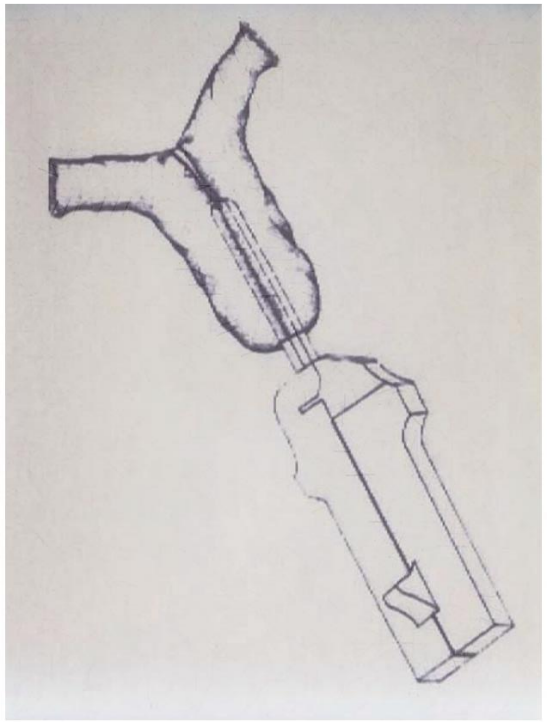
Studer Neobladder



Hautmann Neobladder



Y Neobladder (Fontana)



2003

Hautmann

European Urology

European Urology 44 (2003) 337–339

Robotic-Assisted Laparoscopic Radical Cystectomy and Intra-Abdominal Formation of an Orthotopic Ileal Neobladder

W.-D. Beecken*, M. Wolfram, T. Engl, W. Bentas, M. Probst, R. Blaheta, A. Oertl, D. Jonas, J. Binder

Department of Urology and Pediatric Urology, J.W. Goethe University, Theodor-Stern-Kai 7, 60590 Frankfurt am Main, Germany

Accepted 4 June 2003

We here present the worldwide first case of an robotic-assisted laparoscopic cystectomy and formation of an orthotopic ileal neobladder where the complete procedure was performed intra-abdominally.

Operation time was 8.5 hours and the intra-operative blood loss was 200 ml. There were no intra-operative complications. The patient was mobilized on the first post-operative day and there were no complications during the post-operative clinical course.

Five months after the procedure the patient is well and free of tumor. The urine reservoir demonstrates excellent function.

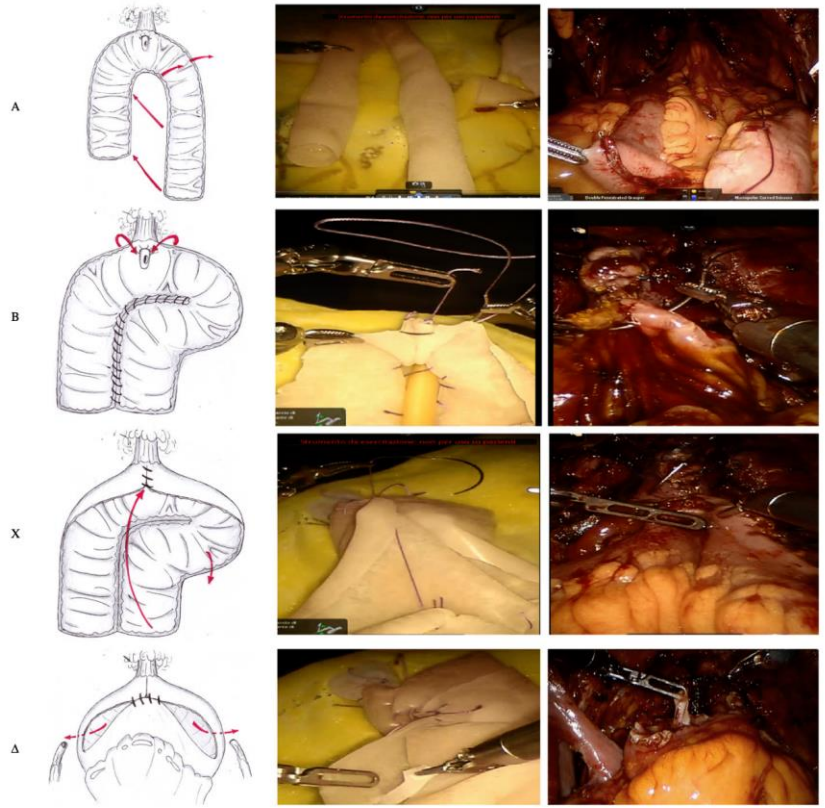
2018

BJUI
BJU International
Step-by-Step

Florence robotic intracorporeal neobladder (FloRIN): a new reconfiguration strategy developed following the IDEAL guidelines

Andrea Minervini*, Davide Vanacore*, Gianni Vittori*, Martina Milanesi*, Agostino Tuccio*, Giampaolo Siena*, Riccardo Campi*, Andrea Mari*, Andrea Gavazzi† and Marco Carini*

*Department of Urology, University of Florence, Florence, Italy, and †Azienda Sanitaria di Firenze (ASF), Florence, Italy



2022

applied sciences
MDPI

Article

The Robotic Intracorporeal Vesuvian Orthotopic Neobladder (VON)—A New Technique for Continent Urinary Diversion: Initial Experience and Description of the Technique

Dario Del Biondo [1], Giorgio Napodano [1], Biagio Barone [2,*], Mario Iacone [1], Marco Grillo [1], Nunzio Ottaviano [1], Bruno Piccoli [1], Ferdinando Di Giacomo [3], Dante Di Domenico [4] and Sertac Yazici [5]

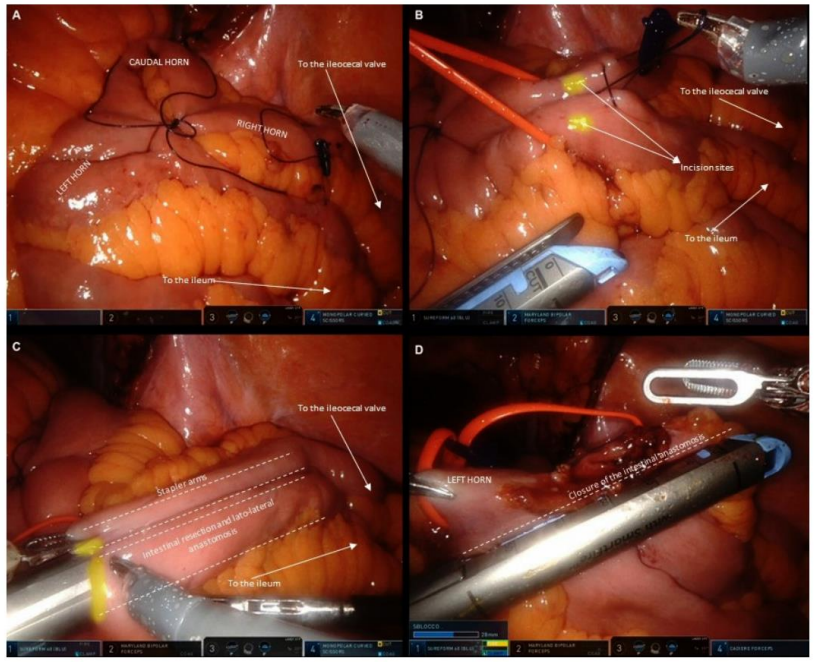


Figure 1. (**A**) Shaping the reservoir. (**B–D**) Intestinal resection.

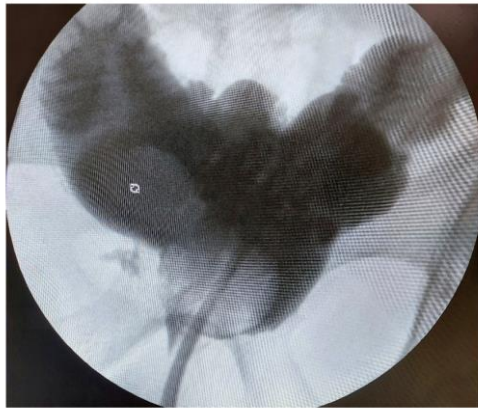


Figure 4. Postoperative cystogram performed before discharge.

Urinary diversion after radical cystectomy for bladder cancer: options, patient selection, and outcomes

Richard K. Lee[1], Hassan Abol-Enein[6], Walter Artibani[7], Bernard Bochner[2], Guido Dalbagni[2], Siamak Daneshmand[3], Yves Fradet[9], Richard E. Hautmann[10], Cheryl T. Lee[4], Seth P. Lerner[5], Armin Pycha[8], Karl-Dietrich Sievert[11], Arnulf Stenzl[11], Georg Thalmann[12] and Shahrokh F. Shariat[1,13]

Table 5 Issues affecting urinary diversion selection.

Cancer control	General health	Technical	HRQOL
Risk of local recurrence	Functional status	Functioning urethra	Compliance
Previous pelvic radiation	Previous surgeries	Tumour location	Sexual function
Need for adjuvant therapy	Renal/hepatic function	Ability to catheterise	Body image
Secondary malignancies	Medical comorbidities	Mesentery length	Urinary function
Urethral or bladder neck involvement	Status of gastrointestinal tract	Bowel condition	Family support
	Body habitus	Operative duration	Daily maintenance

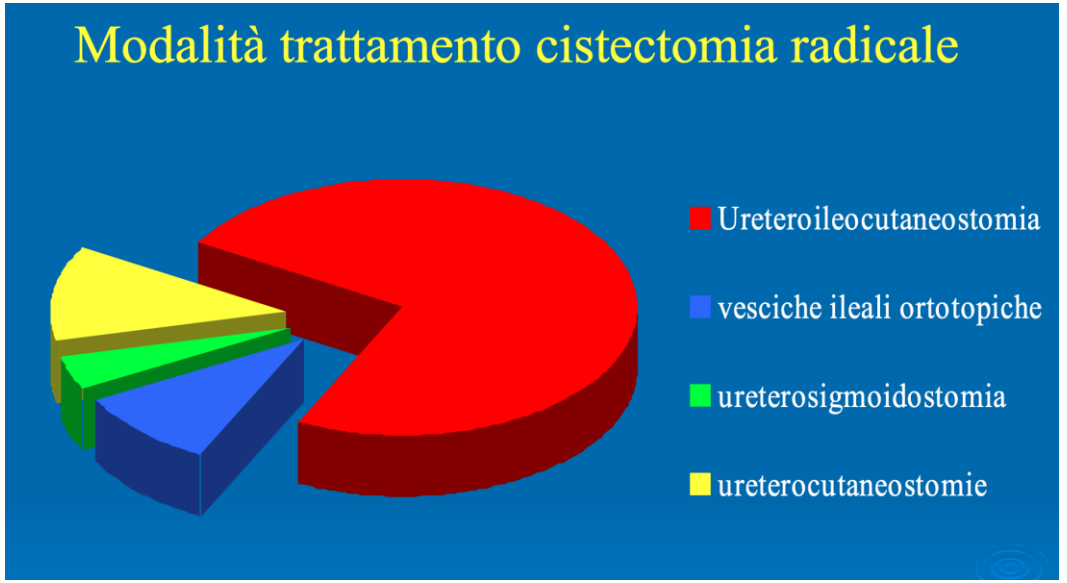
Table 6 Absolute and relative contraindications for continent cutaneous/orthotopic neobladder urinary diversions.

Absolute contraindications	Relative contraindications
Impaired renal function	Associated comorbid conditions
Impaired hepatic function	Advanced age
Physical or mental impairment to perform CISC	Need for adjuvant chemotherapy
Positive apical urethral margin (for neobladder)	Prior pelvic radiation
Unmotivated patient	Bowel disease
	Urethral pathology
	Extensive local disease with soft tissue extension and high risk of local recurrence

Urinary diversion following RARC

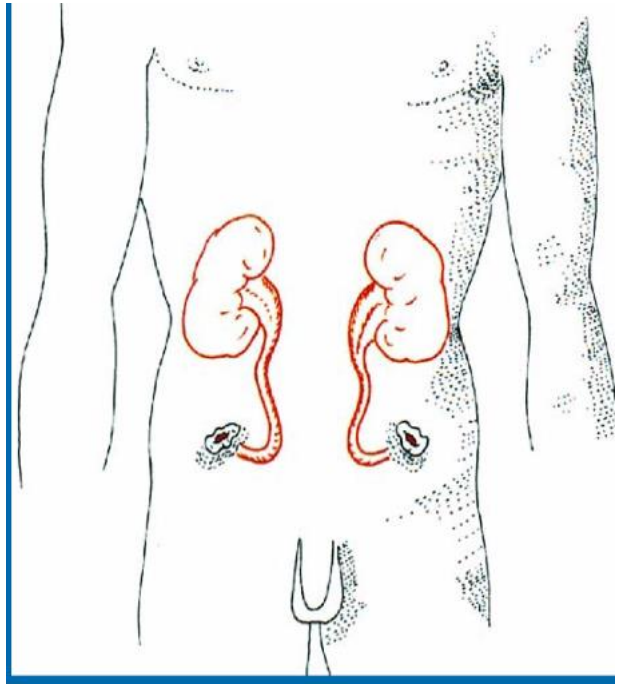
- Ileal conduit
- Neobladder

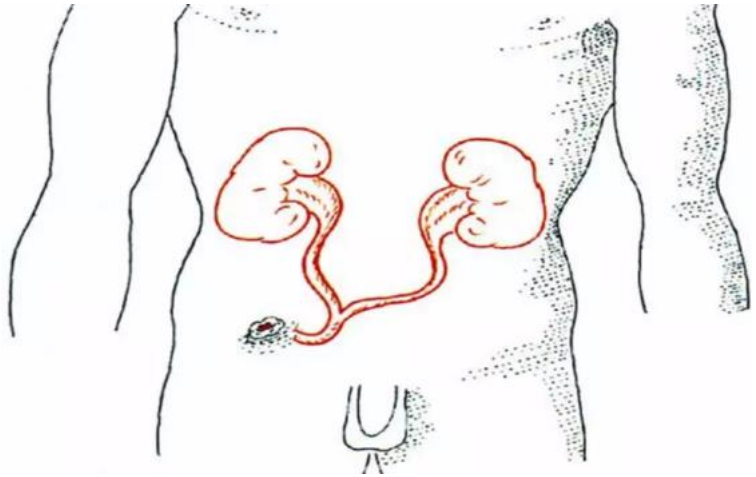
- Ureterocutaneostomy



URETERO-CUTANEO-STOMIA (UCS)

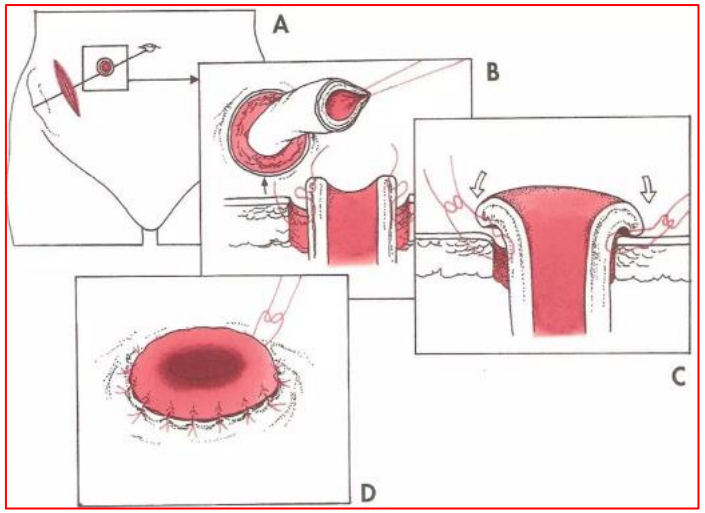
- BILATERALI
- MONOLATERALI (CON STOMA SEPARATO O UNICO)



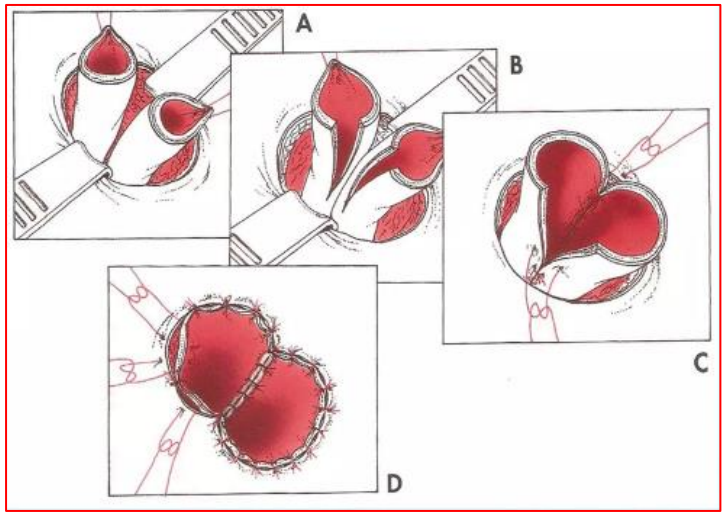


UCS DIRETTE

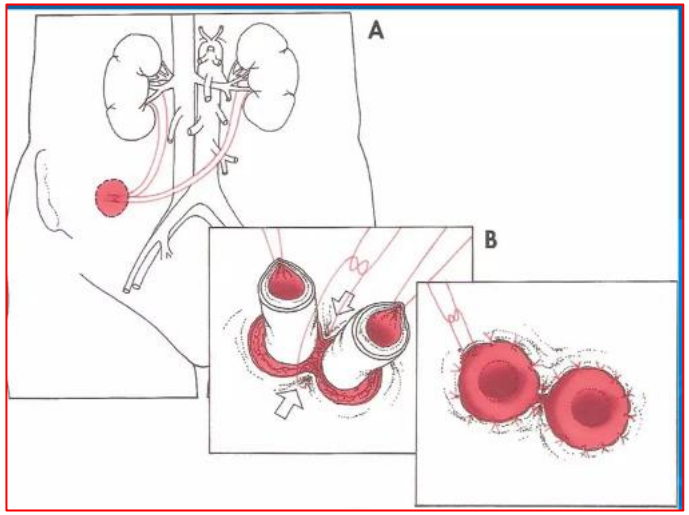
CUKIER O SEMPLICE



CHUTE

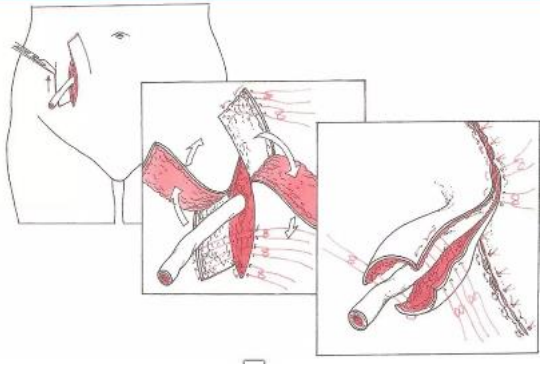


SWENSON AND SMITH

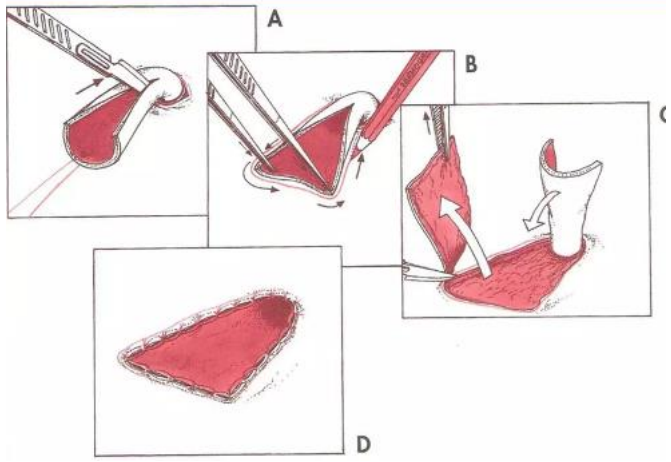


UCS CON LEMBO CUTANEO

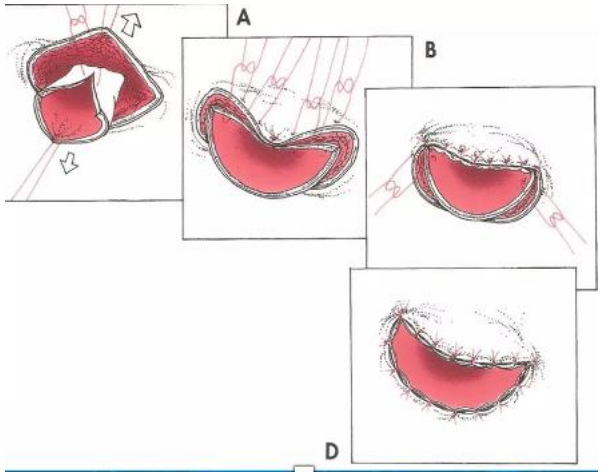
ABESHOUSE



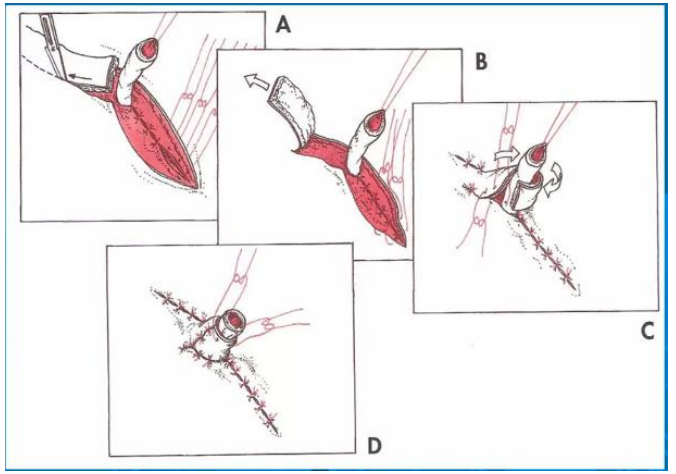
MALAMENT



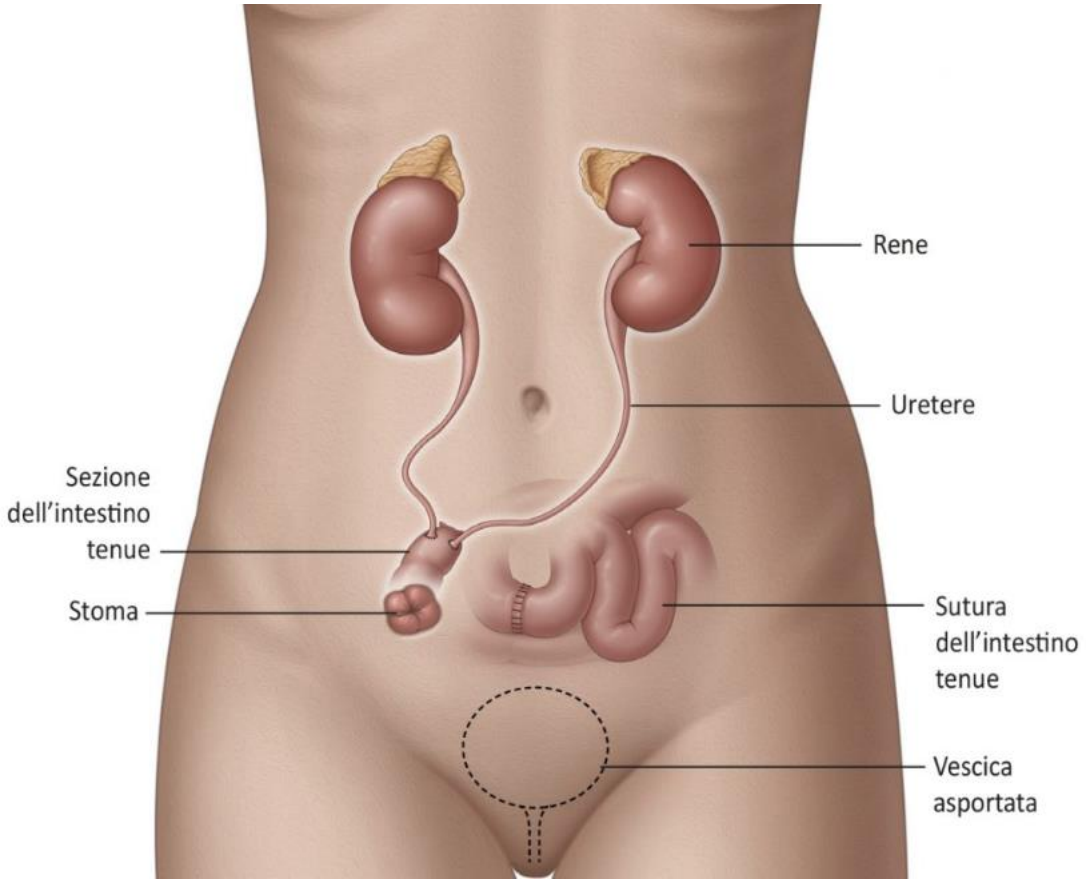
STRAFFON 2

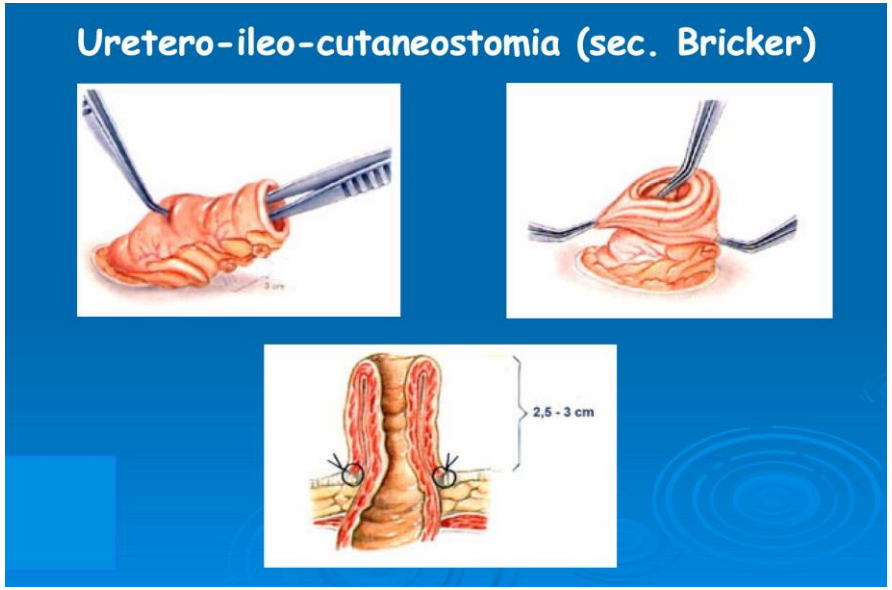


A NIPPLE



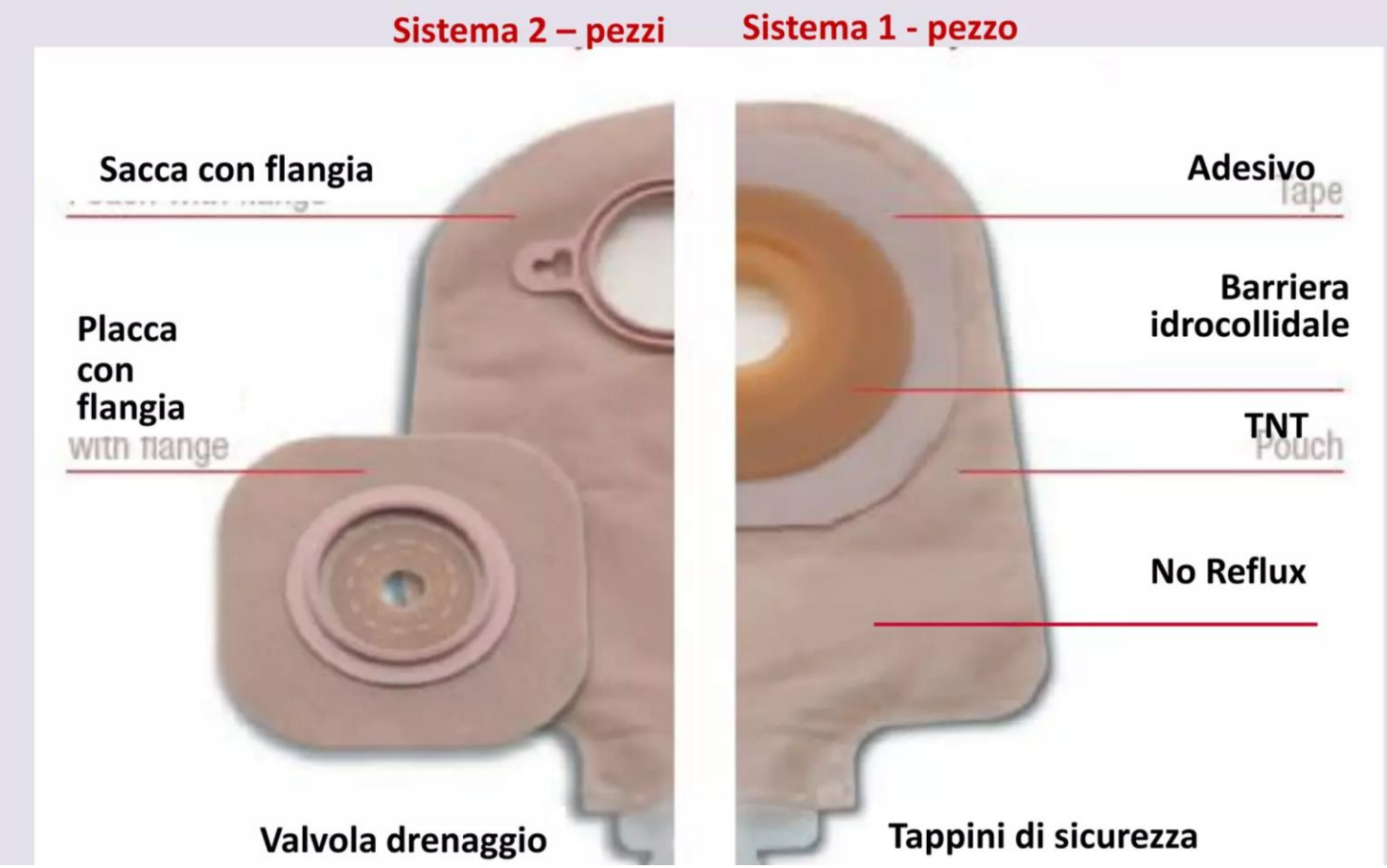
URETERO-ILEO- CUTANEO-STOMIA (BRICKER)





La gestione della urostomia

La gestione della urostomia

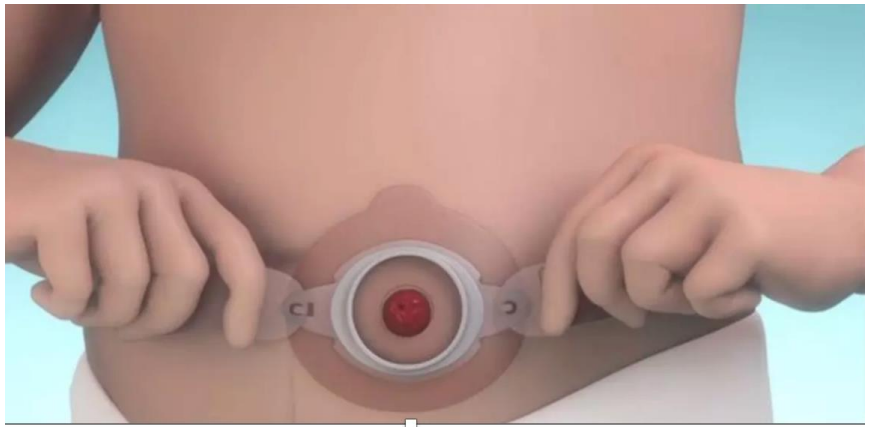


La gestione della urostomia

La sacca ideale

- Perfetta adesività alla cute
- Protezione della zona peristomale
- Facile alla rimozione
- Assenza di residui alla rimozione
- Anallergica
- Impermeabile a liquidi e odori
- Silenziosa, Discreta e leggera
- Flessibile, adattabile e resistente

CINTURE



SISTEMI DI CHIUSURA

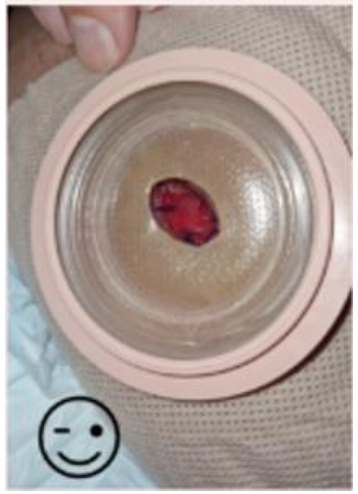
FILM PROTETTIVI PERISTOMALI (salviette, paste, spray)

La gestione della urostomia

- Counselling preoperatorio con il paziente ed i familiari

- Marcare sito della stomia in fase preoperatoria

La gestione della urostomia



- Istruzioni al paziente e care giver
- Rimuovere peli in modo non traumatico
- Adeguata igiene con sapone (evitare uso di soluzioni alcoliche)
- Cute asciutta
- Ritagliare l'anello adesivo su misura (per evitare infiltrazioni di urine)
- Uso di placche convesse, paste adattative, film protettivi peristomali
- Soluzioni non alcoliche per rimuovere adesivo

La gestione della urostomia

Consigli pratici

Apporto idrico 2 litri/die;

Succo di mirtillo (200-300 ml/die);

Ridurre apporto di asparagi, cipolla, cavolfiore, alcol, uova, brococli, cavolo;

Consigliare: yogurt, prezzemolo, siero del latte;

No antibiotico profilassi al cambio dei sondini ureterali;

Stoma score

Skill	0 points	1 point	2 points	3 points	
1. Reaction to the stoma	The patient shows no interest in/has difficulty coping with the stoma.	The patient has seen and touched the stoma on the initiative of the nurse	The patient has seen and touched the stoma on his/her own initiative	The patient copes with the stoma and is preparing for the future	
2. Removing the stoma appliance	The nurse removes the stoma appliance.	The patient needs assistance to remove the stoma appliance	The patient needs verbal guidance to remove the stoma appliance	The patient can remove the stoma appliance independently	
3. Measuring the stoma diameter	The nurse measures the stoma diameter	The patient needs assistance to measure the stoma diameter correctly	The patient needs verbal guidance to measure the stoma diameter correctly	The patient can measure the stoma diameter correctly independently	
4. Adjusting the size of the urostomy diameter in a new stoma appliance	The nurse cuts the size of the urostomy diameter	The patient needs assistance to cut the size of the urostomy diameter	The patient needs verbal guidance to cut the size of the urostomy diameter	The patient can cut the size of the urostomy diameter inde-pendently	
5 . Skin care	The nurse cleans and dries the skin	The patient needs assistance to clean and dry the skin	The patient needs verbal guidance to clean and dry the skin	The patient can clean and dry the skin independently	
6. Fitting a new stoma appliance	The nurse fits a new stoma appliance	The patient needs assistance to fit a new stoma appliance	The patient needs verbal guidance to fit a new stoma appliance	The patient can fit a new stoma appliance independently	
7. Emptying procedure. (Emptying bag and attaching/detaching night bag)	The nurse performs the emptying procedure	The patient needs assistance to perform the emptying procedure	The patient needs verbal guidance to perform the emptying procedure	The patient can perform the emptying procedure independently	
				Total points:	

S.A. Kristensen & BT Jensen, WOCN 2013, Jensen et al Urologic Nursing 2013

COMPLICANZE

- 25% dei pazienti

PRECOCI (<15 gg)

- edema
- emorragia
- infezioni
- necrosi
- deiscenze
- retrazioni (1-2%)
- dermatiti

TARDIVE (>15 gg)

- infezioni
- necrosi
- deiscenze
- fistole
- retrazioni (1-2%9
- stenosi (5%)
- ernie (4-14%)
- prolassi (1-2%)
- calcolosi urinaria
- pielonefriti
- IRC
- Reazioni cutanee

COMPLICANZE

FATTORI CHIRURGICI PREDISPONENTI

- Eccessiva manipolazione dell'uretere con compromissione vascolare
- Angolazioni dell'uretere
- Torsioni e trazioni sull'uretere
- Scorretta tunnellizzazione della parete addominale
- Sede stomia incongrua

COMPLICANZE

EDEMA

cause

- TRAZIONI SU ANSA
- ANELLO PARIETALE STRETTO
- PRESIDI NON IDONEI

esiti

- STENOSI
- NECROSI

trattamento

- GHIACCIO
- TRATTAMENTO CONSERVATIVO

COMPLICANZE

EMORRAGIA

cause

- COAGULOPATIE
- ECCESSIVA ESTERIORIZZAZIONE DELL'ANSA

esiti

- ANEMIA

trattamento

- GHIACCIO
- ELETTROCAUTERIO

COMPLICANZE

NECROSI

cause

- TRAZIONE SU MESO
- DANNO URETERALE

esiti

- STENOSI
- DISTACCO STOMIA CON PERITONITE

trattamento

- REINTERVENTO

COMPLICANZE

SUPPURAZIONE

cause

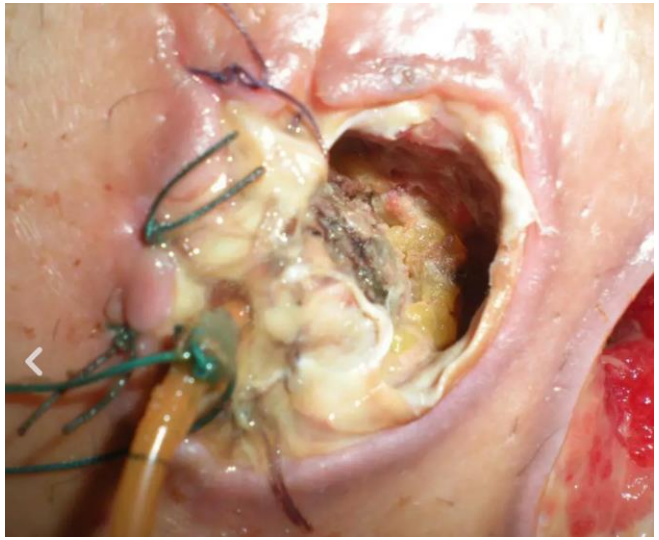
- CONTAMINAZIONI

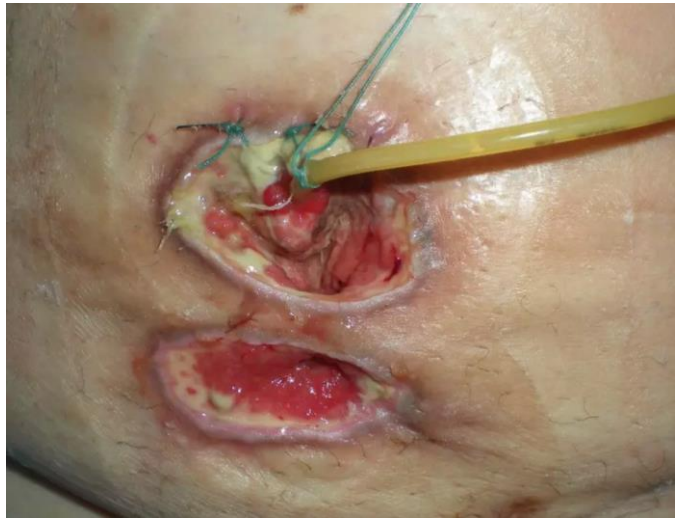
esiti

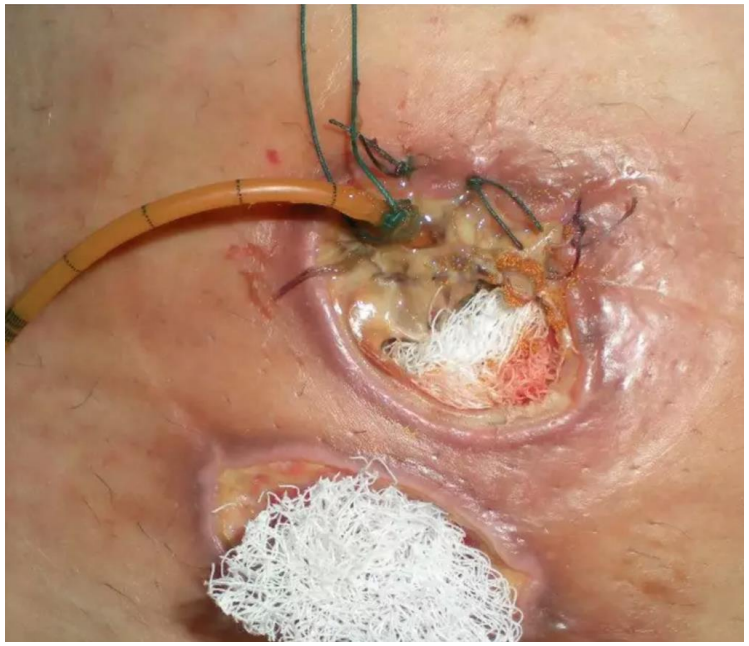
- STENOSI
- FISTOLE
- DISTACCO STOMIA CON PERITONITE

trattamento

- DRENAGGIO
- TERAPIA ANTIBIOTICA
- MEDICAZIONI AVANZATE
- CURETTAGE
- REINTERVENTO







COMPLICANZE

ERNIE

cause

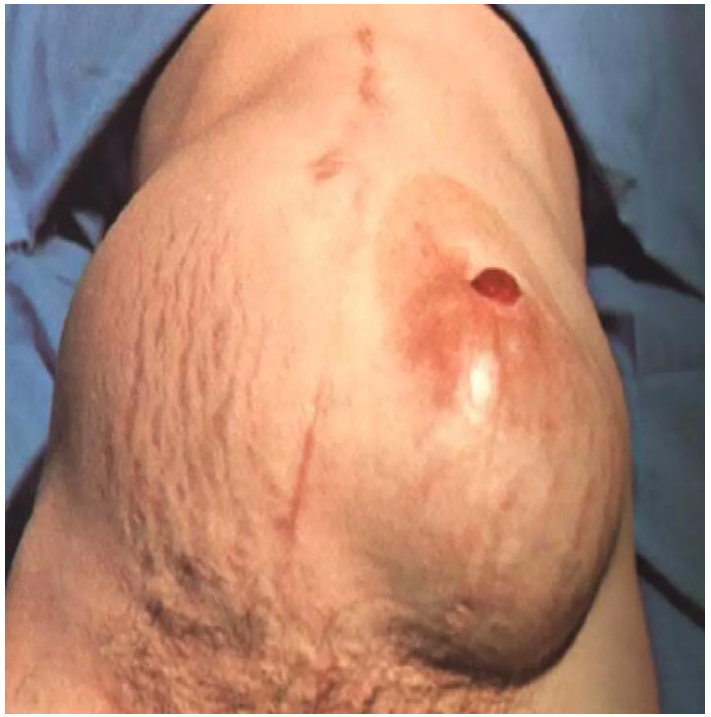
- OBESITA’
- STIPSI
- PREGRESSA CHIRURGIA

esiti

- DOLORE
- OCCLUSIONE

trattamento

- CHIRURGIA



COMPLICANZE

PROLASSO MUCOSO O TOTALE

cause

- INCISIONE PARIETALE AMPIA
- INSUFFICIENTE FISSAZIONE VISCERO-PARIETALE

esiti

- EDEMA
- EMORRAGIA
- NECROSI

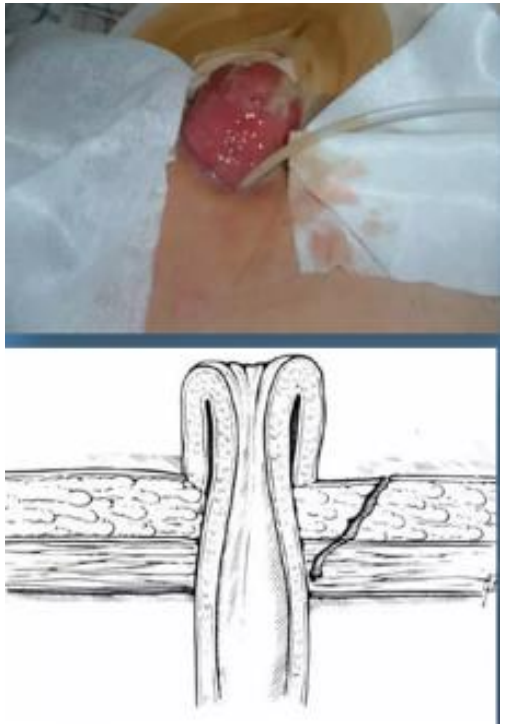
trattamento

- RIDUZIONE MANUALE
- CHIRURGIA

COMPLICANZE

FISTOLA

VISCERO-CUTANEA
PERISTOMALE
TRANS-STOMALE



cause

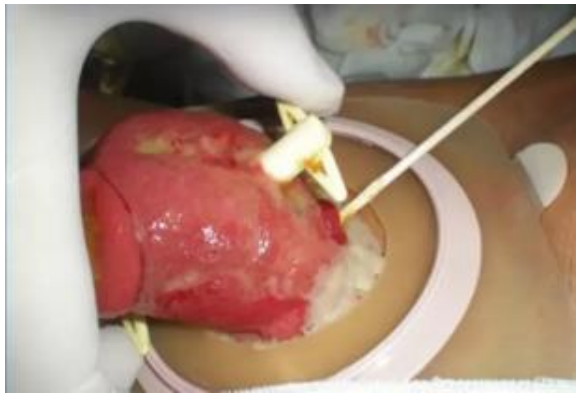
- TRAUMA
- INFEZIONE

esiti

- ASCESSO
- DERMATITE
- STENOSI

trattamento

- MEDICAZIONI AVANZATE
- CHIRURGIA



COMPLICANZE

STENOSI

cause

- TRAUMA
- INFEZIONE
- ISCHEMIA
- COLLETTO FASCIALE STRETTO

esiti

- IDRONEFROSI

trattamento

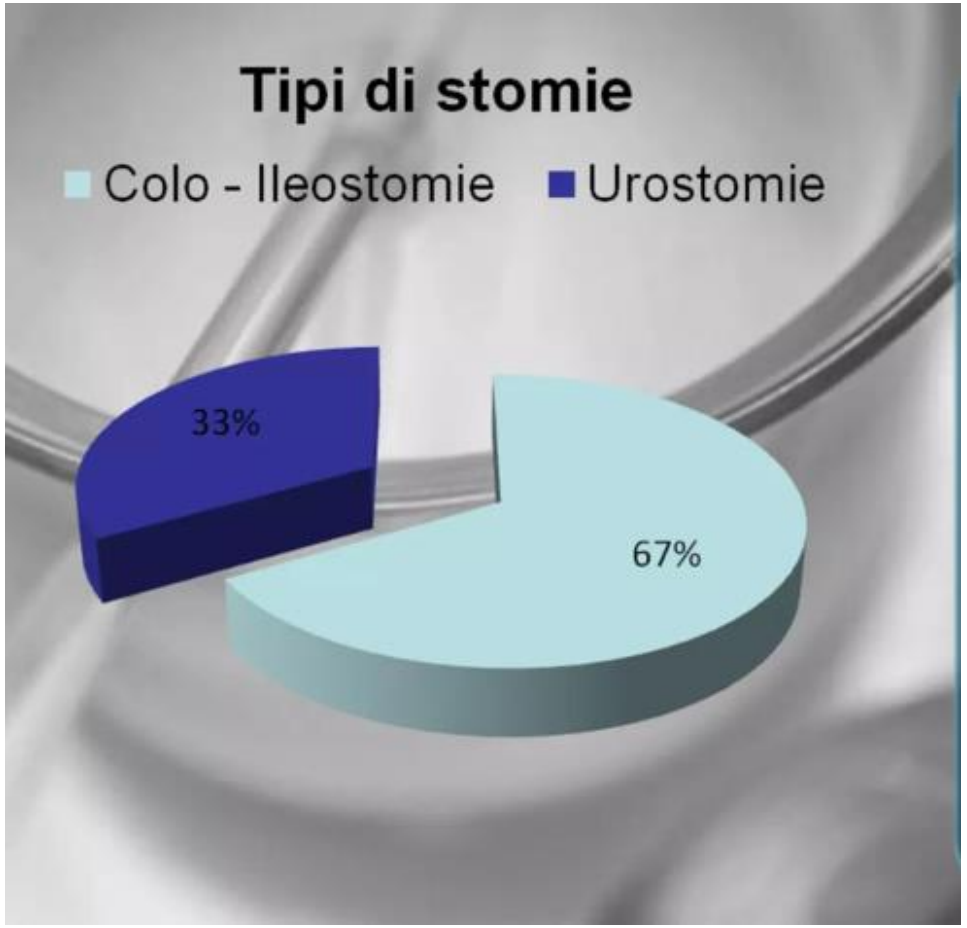
- DILATAZIONI
- NEFROSTOMIA

COMPLICANZE

LESIONI CUTANEE PERISTOMALI

incidenza

18-55%



COMPLICANZE

DERMATITE DA CONTATTO

cause

- Eritema
- Perdita di sostanza

COMPLICANZE

DERMATITE ALLERGICA

cause

- Eritema
- vescicole, bolle
- margini mal definiti
- prurito

COMPLICANZE

CANDIDOSI

cause

- Eritema con bordi irregolari
- pustole

COMPLICANZE

FOLLICOLITE

cause

- Eritema e pustole localizzate a livello del follicolo pilifero

- Stafilococco aureus

COMPLICANZE

LESIONI PSEUDOVERRUCOSE

cause

- iperplasia epidermica

COMPLICANZE

GRANULOMI

- DA CORPO ESTRANEO
- ASPECIFICI (INFIAMMATORI)

- Nitrato d’argento
- escissione

COMPLICANZE

DEPOSITI DI CRISTALLI

- CAUSATI DA URINE ALCALINE E INFEZIONI URINARIE

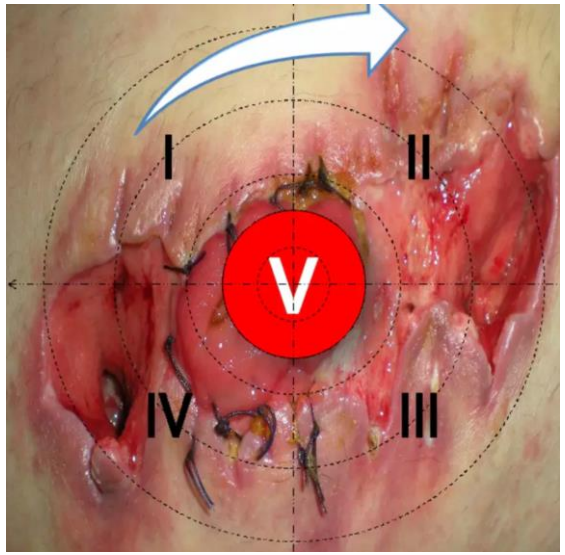
- dieta: acqua, succhi di frutta acidi, proteine

- soluzione 2/2 acqua e 1/3 aceto

COMPLICANZE

NEOPLASIE UROTELIALI

- correlare al dato clinico
- biopsia
- Stadiazione
- chirurgia



L1

- arrossamento senza perdita di sostanza

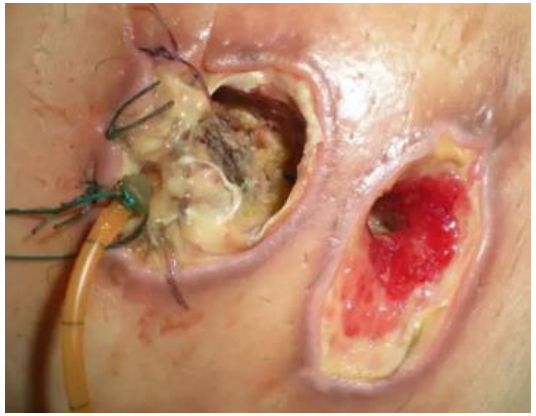
L2

- perdita di sostanza non oltre il derma

L3

- perdita di sostanza oltre il derma

L4



- lesione ulcerativo/necrotica

LX

- lesione profliferativa

The creation of a urostomy impacts multiple aspects of daily life.

These changes influence:

Urine elimination

Body image

Self-esteem

Personal care

Sexual health

Mental health

Work life

Health-related quality of life