

The making of the ileal orthotopic bladder
substitute with an afferent tubular segment:

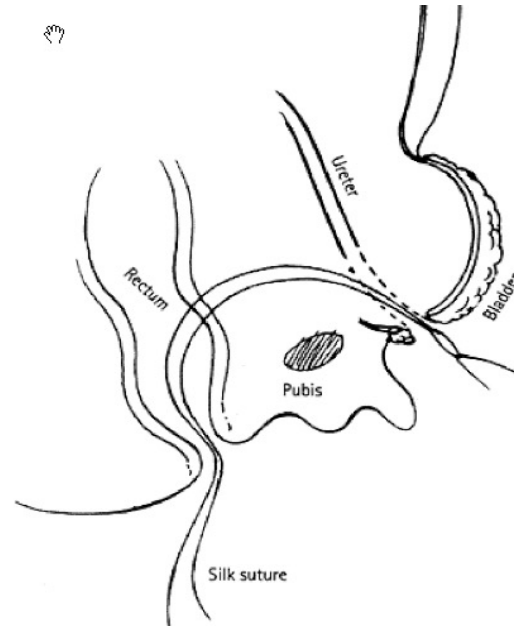
In memory of Prof. Urs Studer



1944 - 2023

Fiona Burkhard

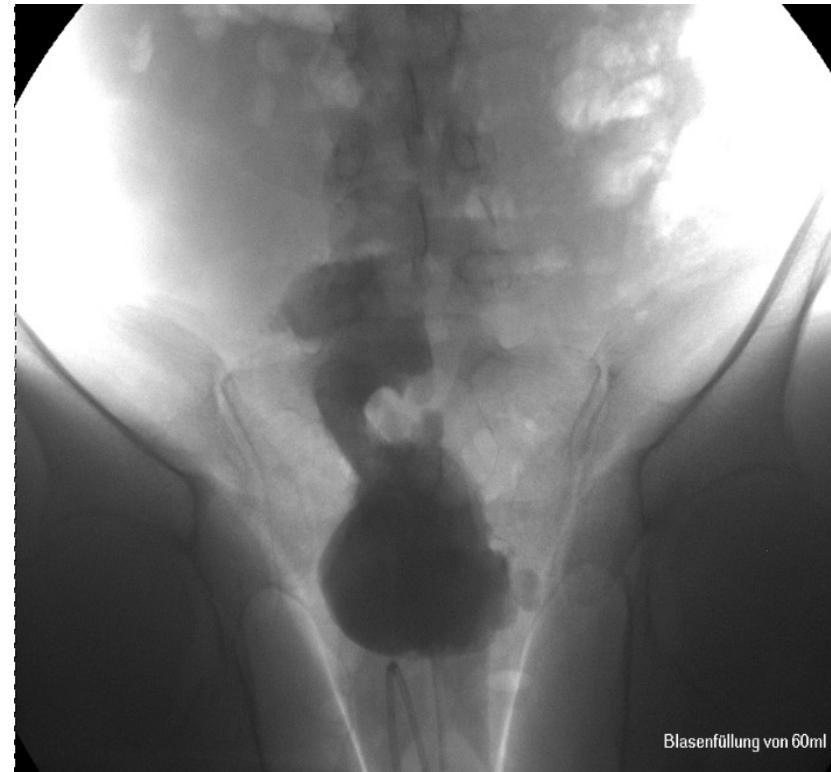
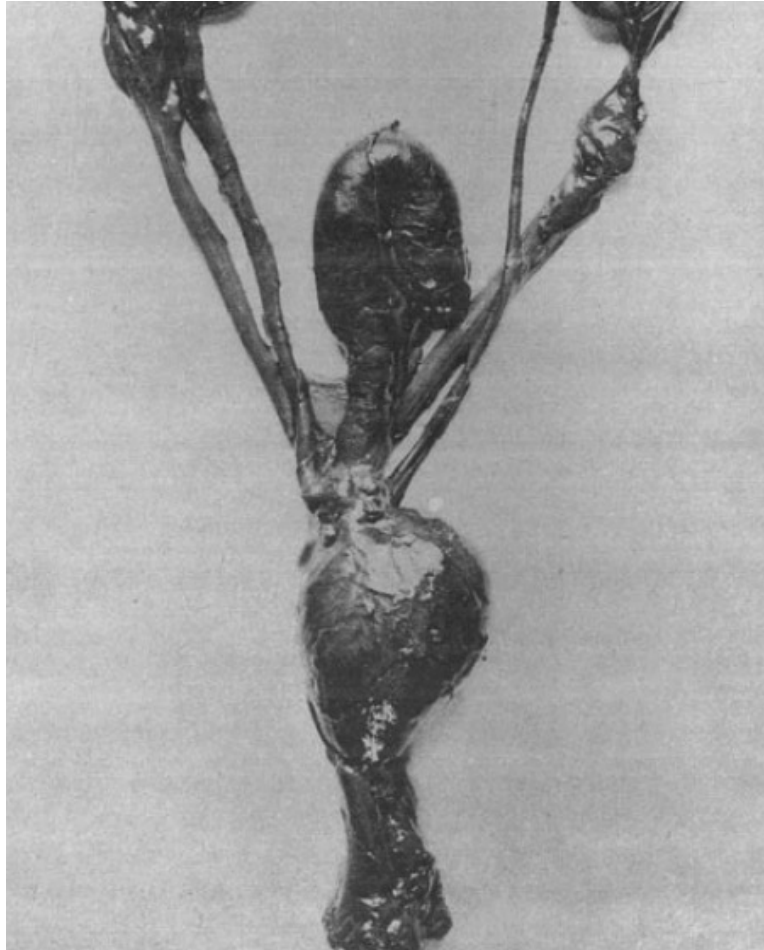
The history of urinary diversion began when Simon in 1852 reported implanting both ureters into the rectosigmoid colon with the help of silver catheters and silk sutures.



The first cystectomy for bladder cancer was performed 1887 by Bardenheuer

Tizzoni und Foggi 1888

Centralblatt für Chirurgie



First experience bladder substitutes

Verhoogen 1908

Makkas 1910

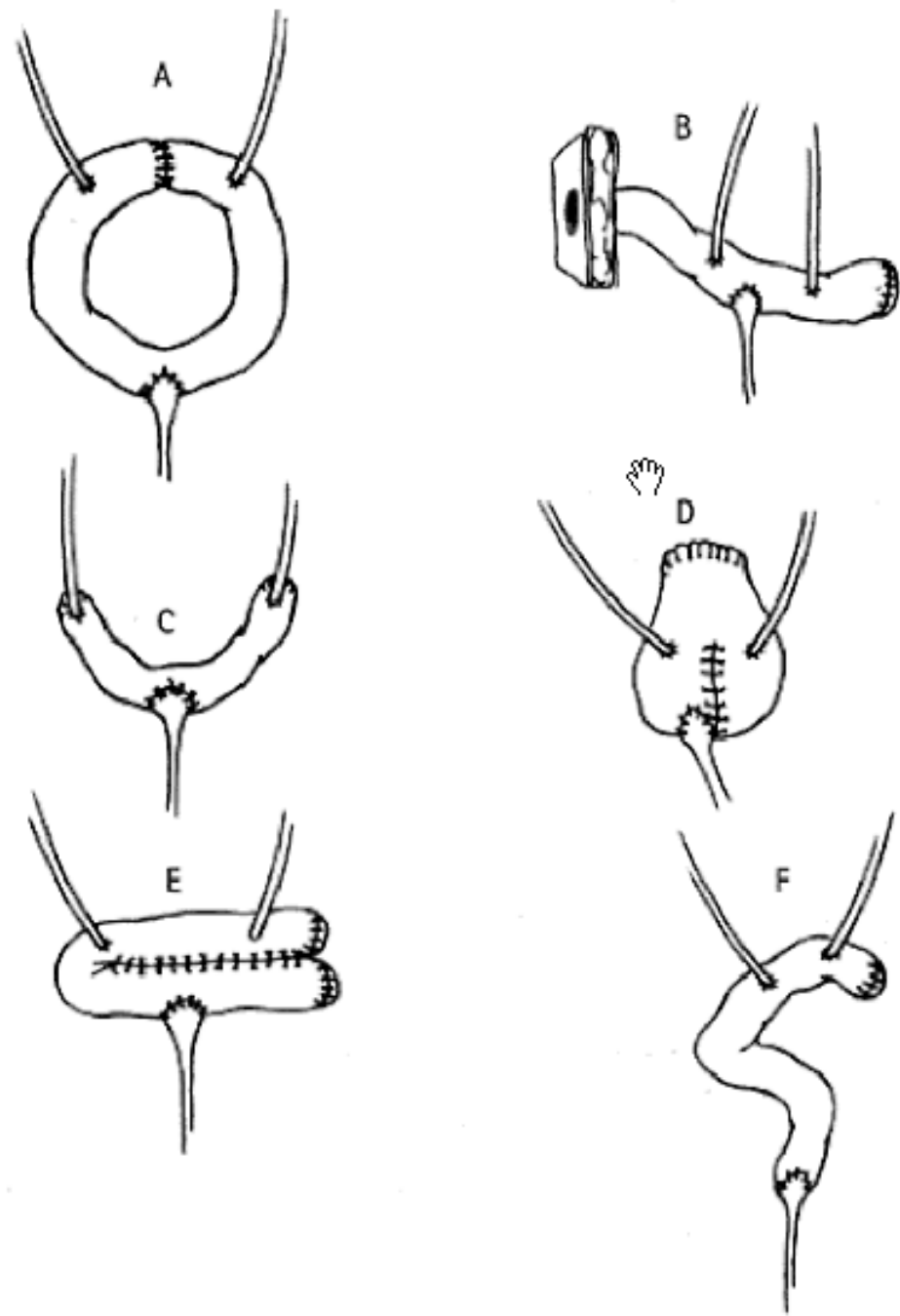
Continence was not the best!

Lengemann 1912

Ileocecal segment with the appendix to the abdominal wall

Gilchrist, Zingg, Aschken and Goldwasser used a distal ileal segment instead of the appendix

Figure 1.11 ileal neobladders. (a) Tizzoni and Poggi (1888); (b) Couvelaire (1951); (c) Pyrah and Raper (1955); (d) Giertz and Franksson (1957); (e) Mellinger and Suder (1958); (f) Gandin (1960).



ILEAL RESERVOIR (URETEROILEOURETHRAL ANASTOMOSIS)

METHOD OF URINARY DIVERSION

George T. Mellinger, M.D.
and
Garfield L. Suder, M.D., Cincinnati

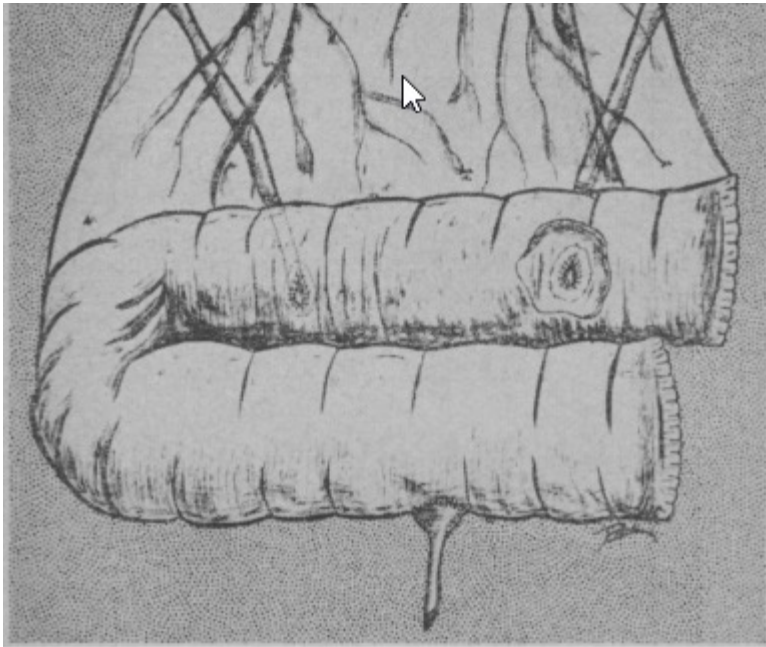


Fig. 1.—Ileal reservoir on completion of surgery.

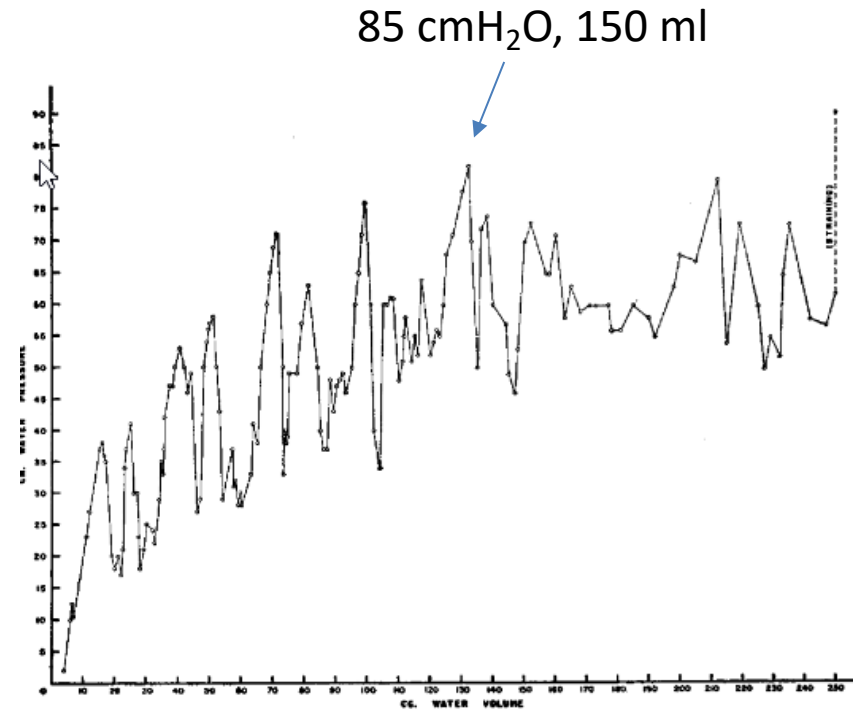


Fig. 4 (case 2).—Cystometrogram, six weeks postoperatively, demonstrating intestinal pattern.

Both were continent during the day but had some difficulty maintaining continence during the night.

25-YEAR EXPERIENCE WITH REPLACEMENT OF THE HUMAN BLADDER (CAMEY PROCEDURE)

OTTO M. LILIEN AND MAURICE CAMEY

From the Departments of Urology, Upstate Medical Center, Veterans Administration Medical Center, Syracuse, New York, and Hospital Foch, Suresnes, Paris, France

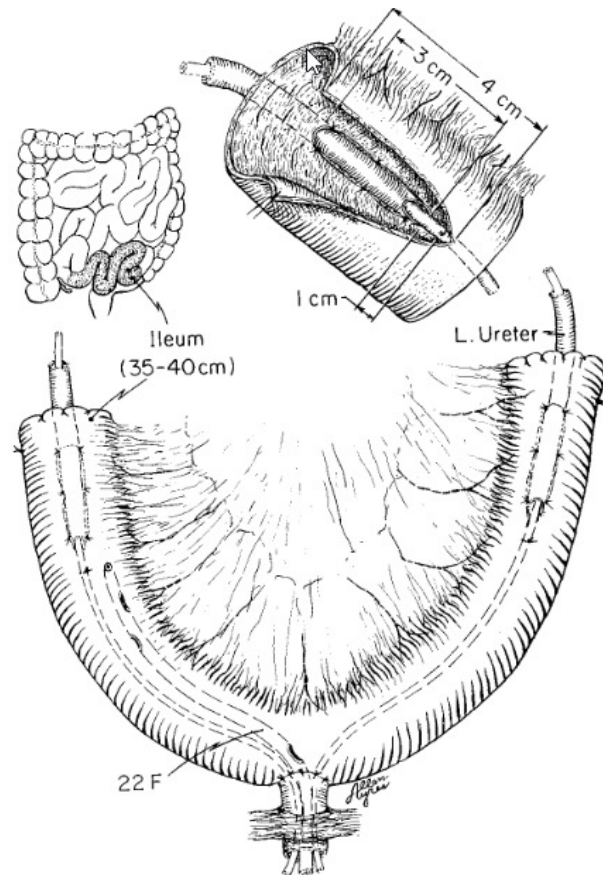


FIG. 1. Surgical technique

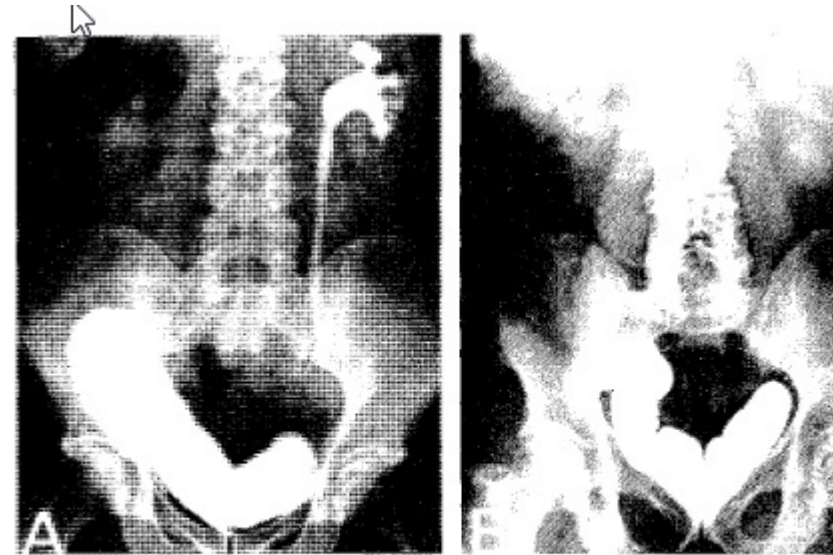
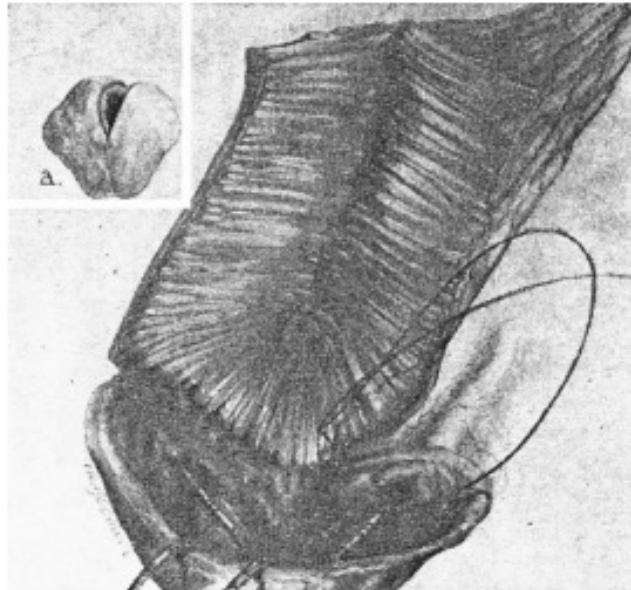


FIG. 4. A, patient 57. First Le Duc-Camey antireflux ureteral reimplantation performed on right side in 1977. Cystogram demonstrates reflux on unprotected left side. B, patient 66. Bilateral antireflux ureteral implantation.

“CUP-PATCH” TECHNIQUE OF ILEOCYSTOPLASTY FOR BLADDER ENLARGEMENT OR PARTIAL SUBSTITUTION



I

FIG. 5. After the peritoneum has been mobilized from the base of the bladder, the bladder is opened in the midline, through its vertex. The ileac patch is then sewed to the bladder beginning posteriorly in the midline and working laterally from each side using a continuous, intermittently locking catgut suture.

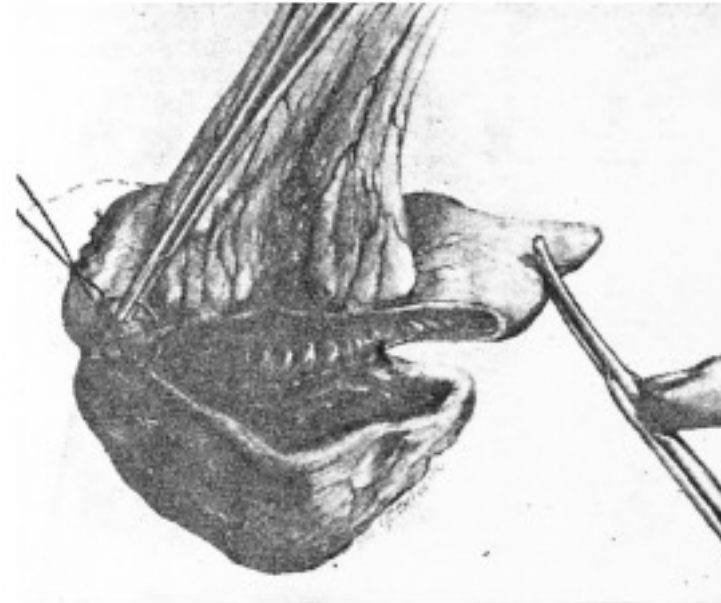
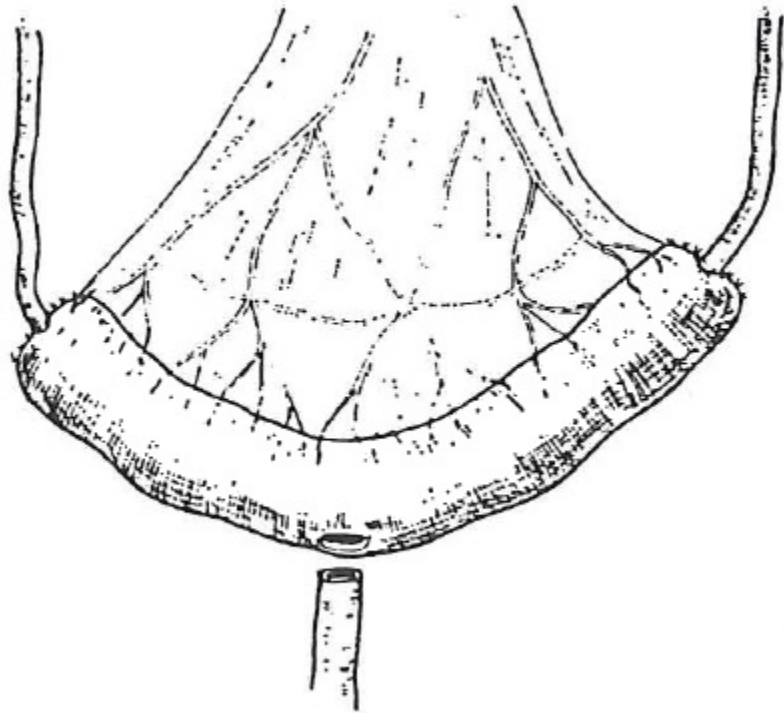


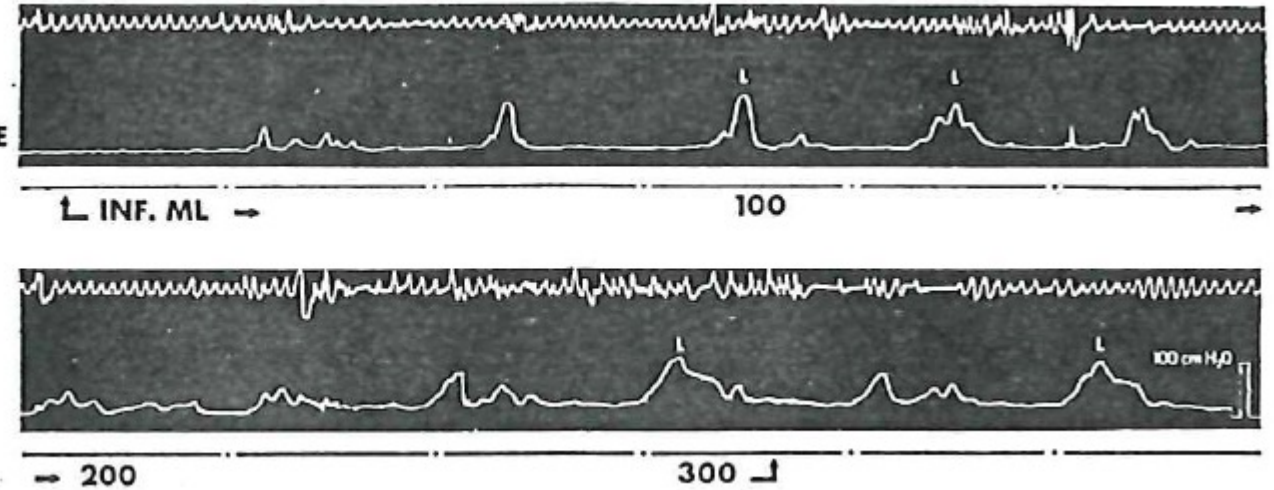
FIG. 6. In some cases redundant portions of ileum have to be excised and tailored to make the flap more cuplike. When this is done it is necessary to close the defects.

Non-split ileal bladder

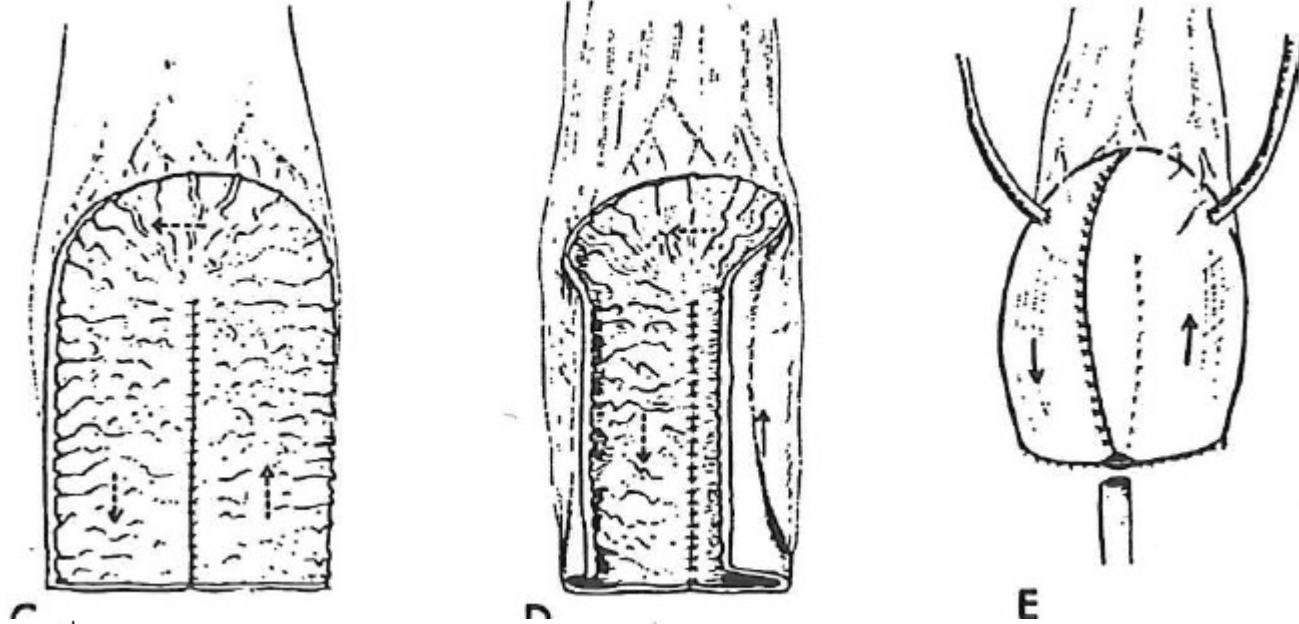


RESPIRATION

"BLADDER" PRESSURE
TIME IN MIN.

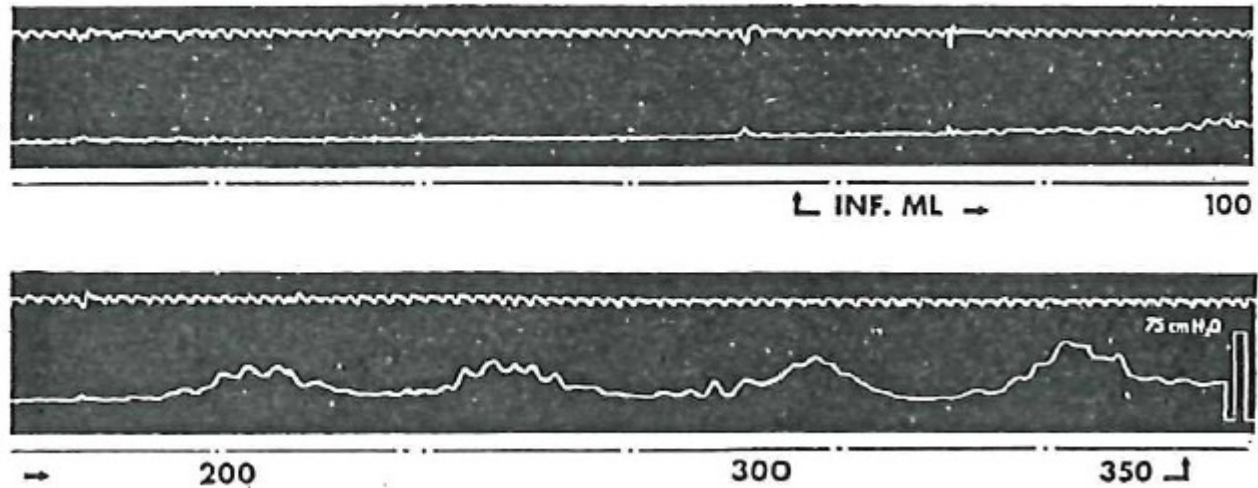


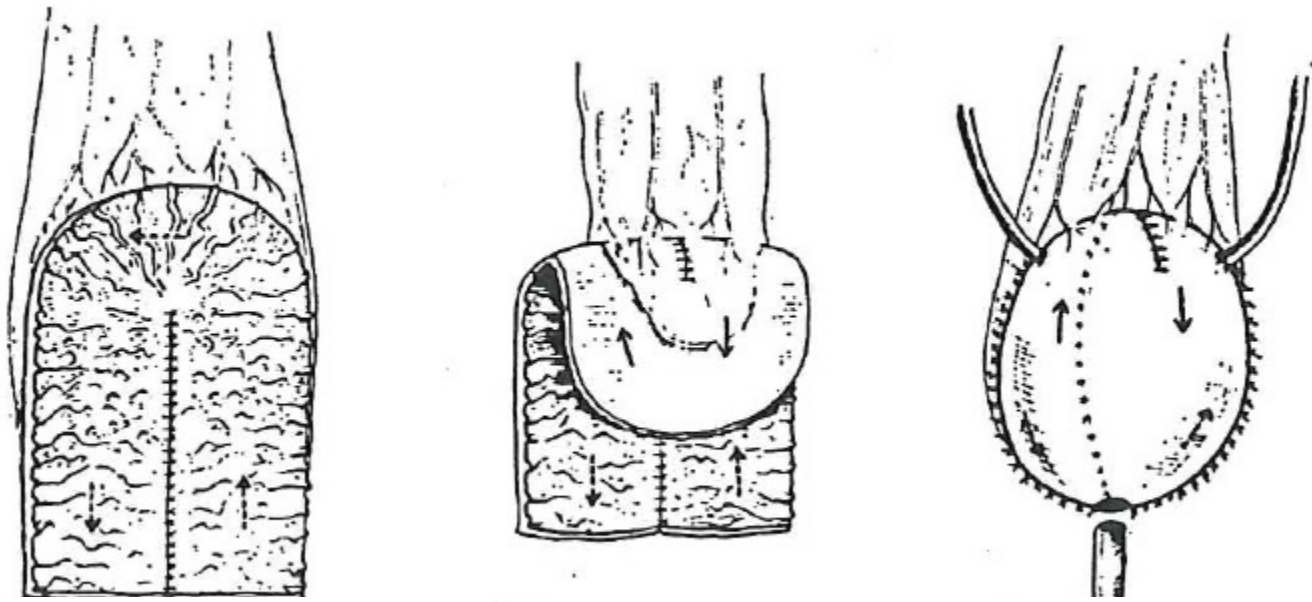
Bladder substitute described by Franksson and Giertz



RESPIRATION

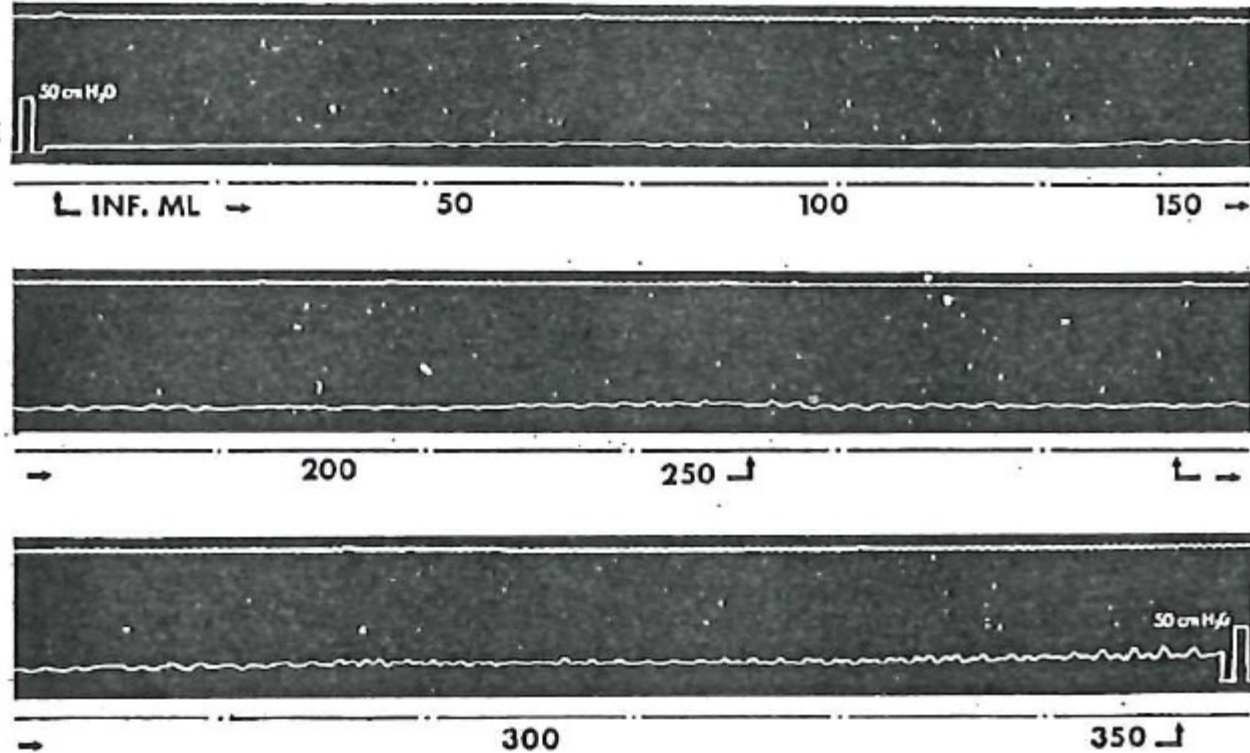
'BLADDER' PRESSURE
TIME IN MIN.





RESPIRATION

"BLADDER" PRESSURE
TIME IN MIN.



Urinary diversion via a continent ileal clinical results in 12 patients

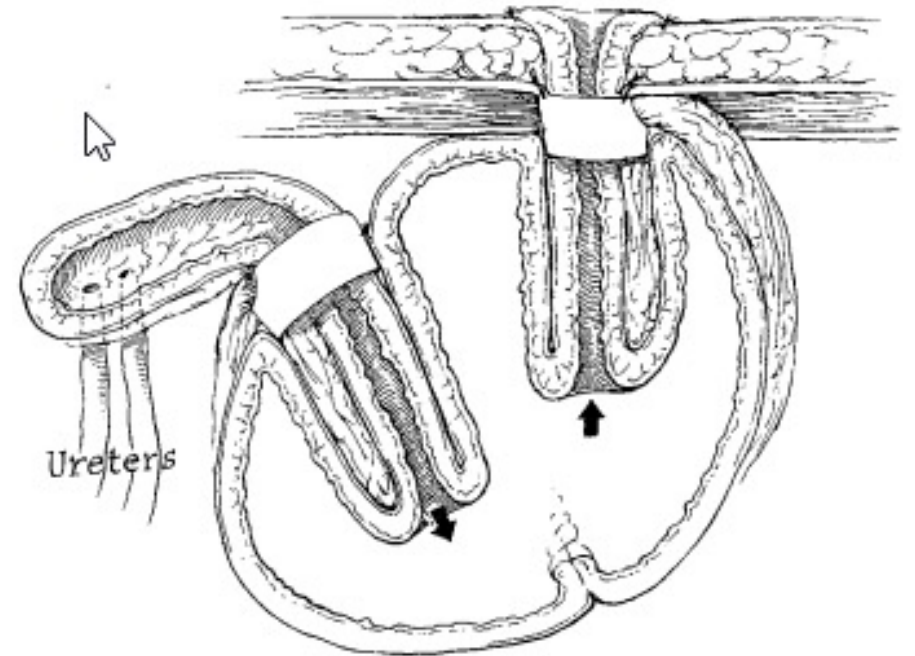
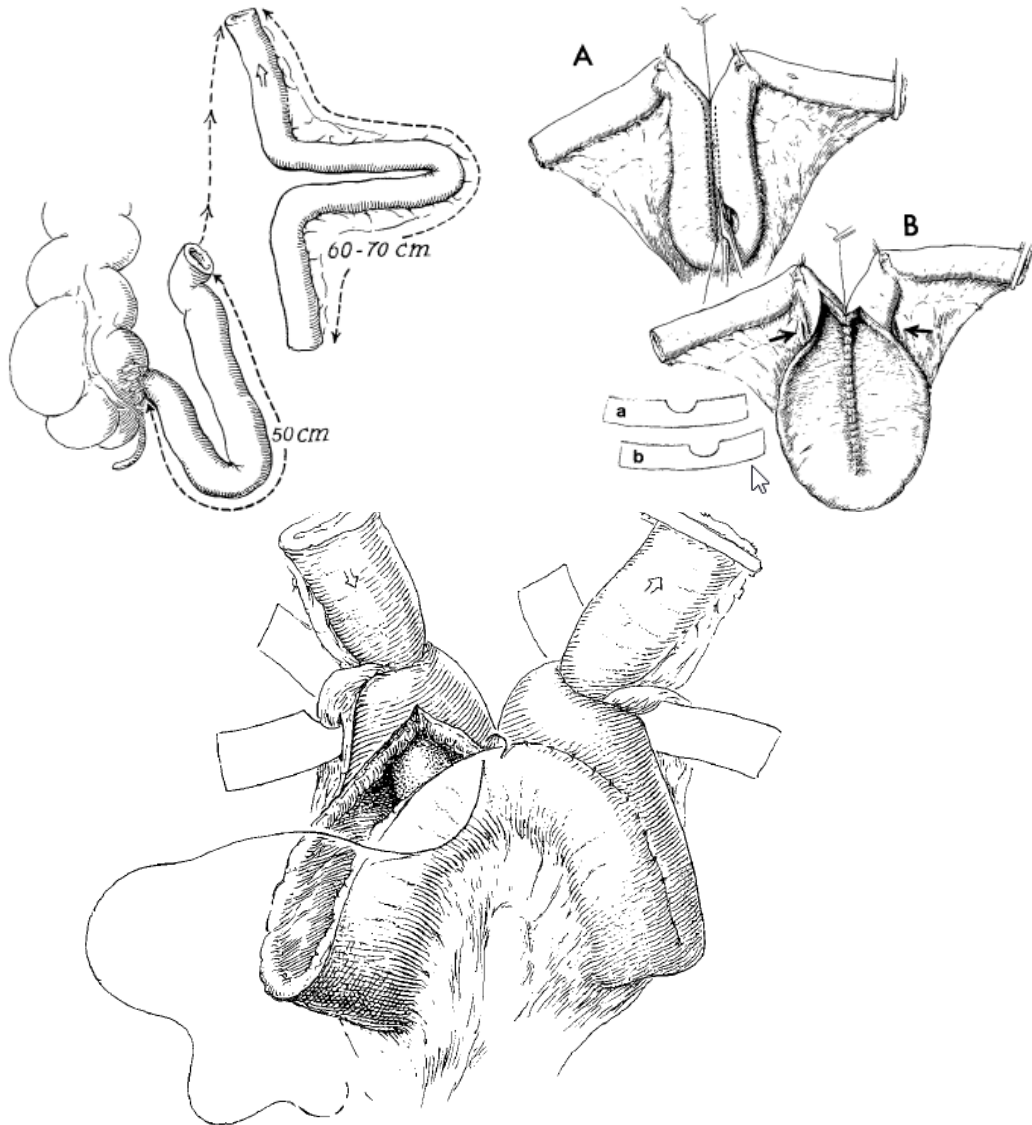
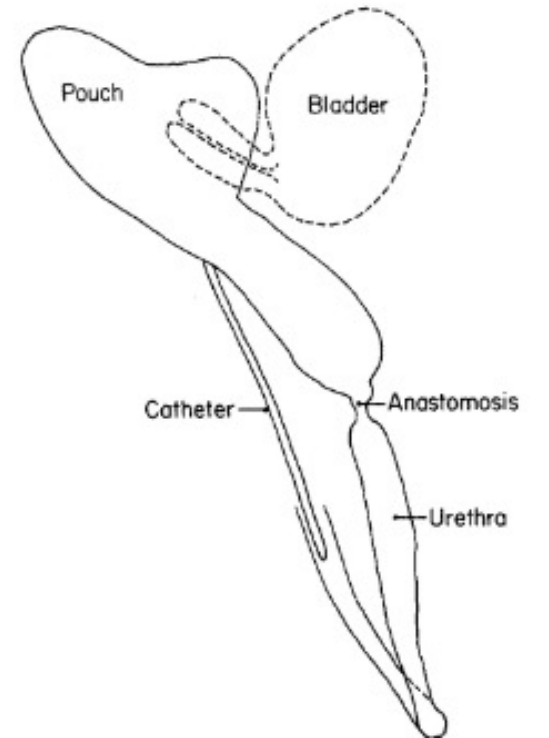
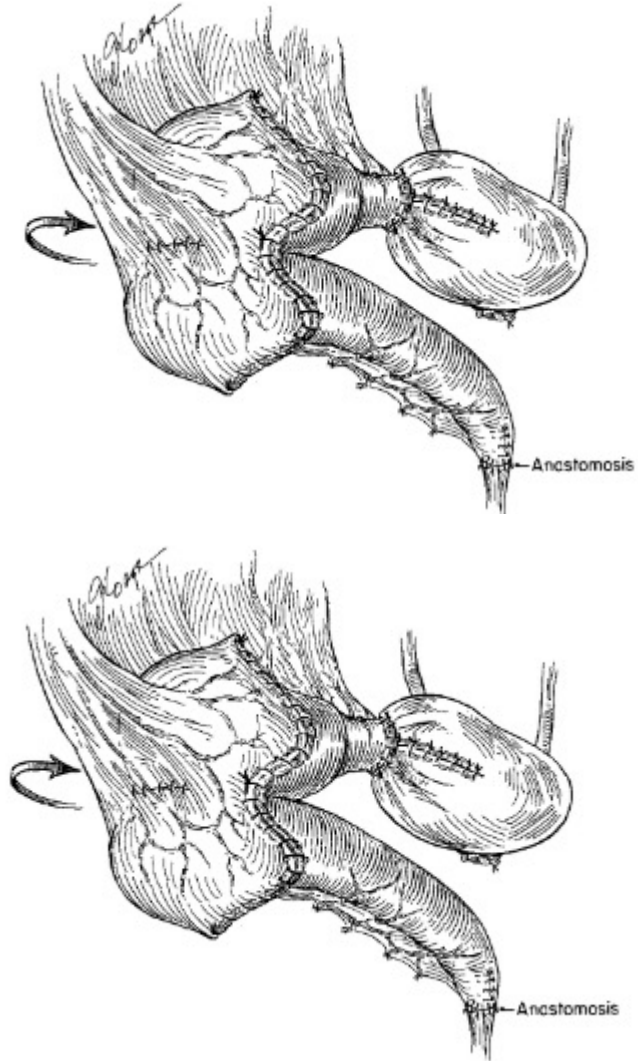
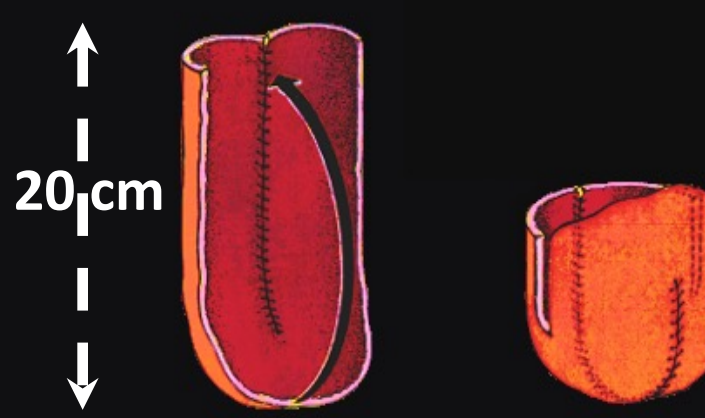
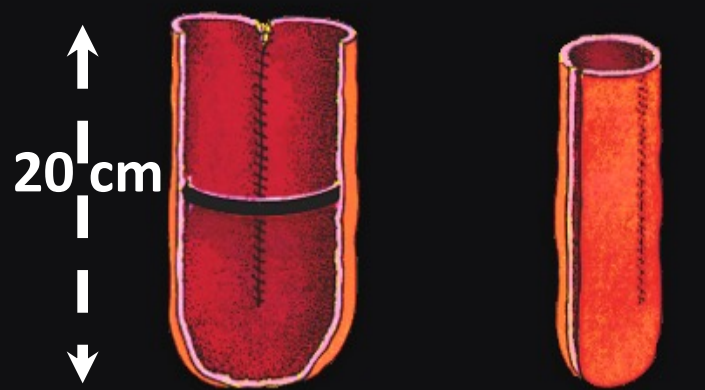
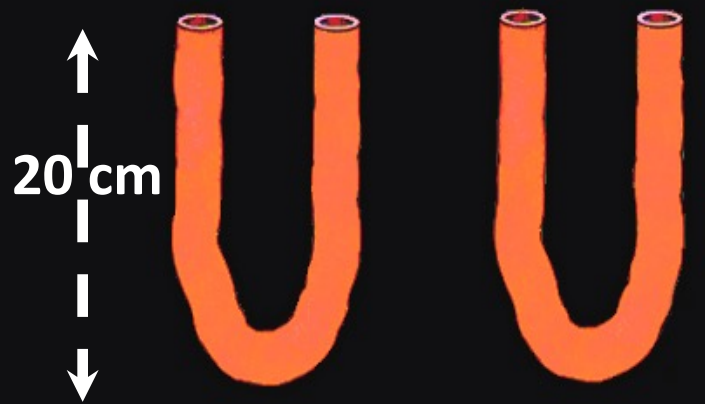





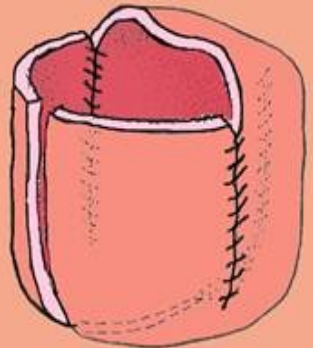
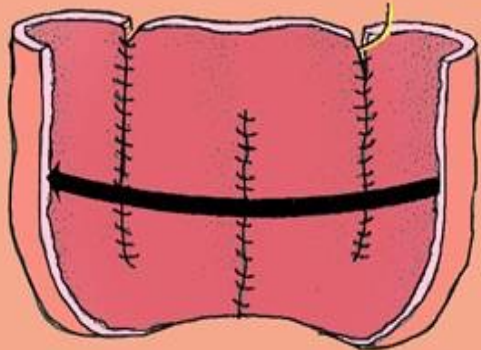
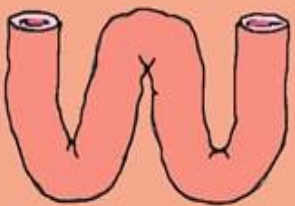
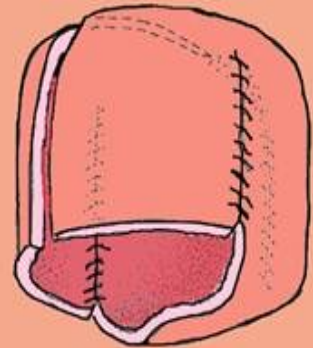
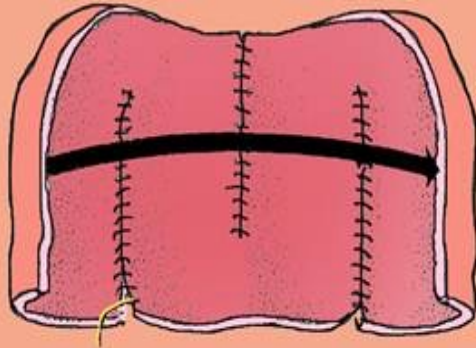
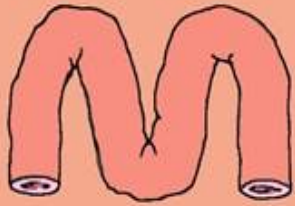
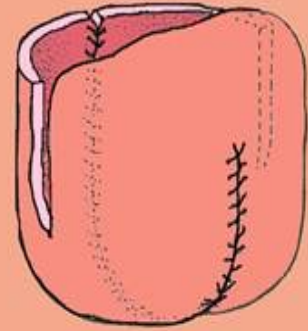
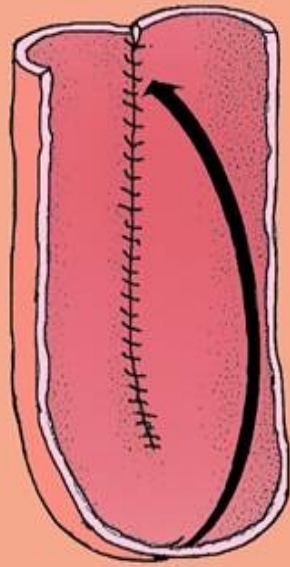
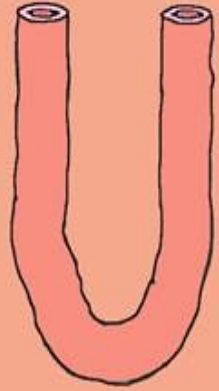
FIG. 8. Completed ileal reservoir in situ

Dog experiments

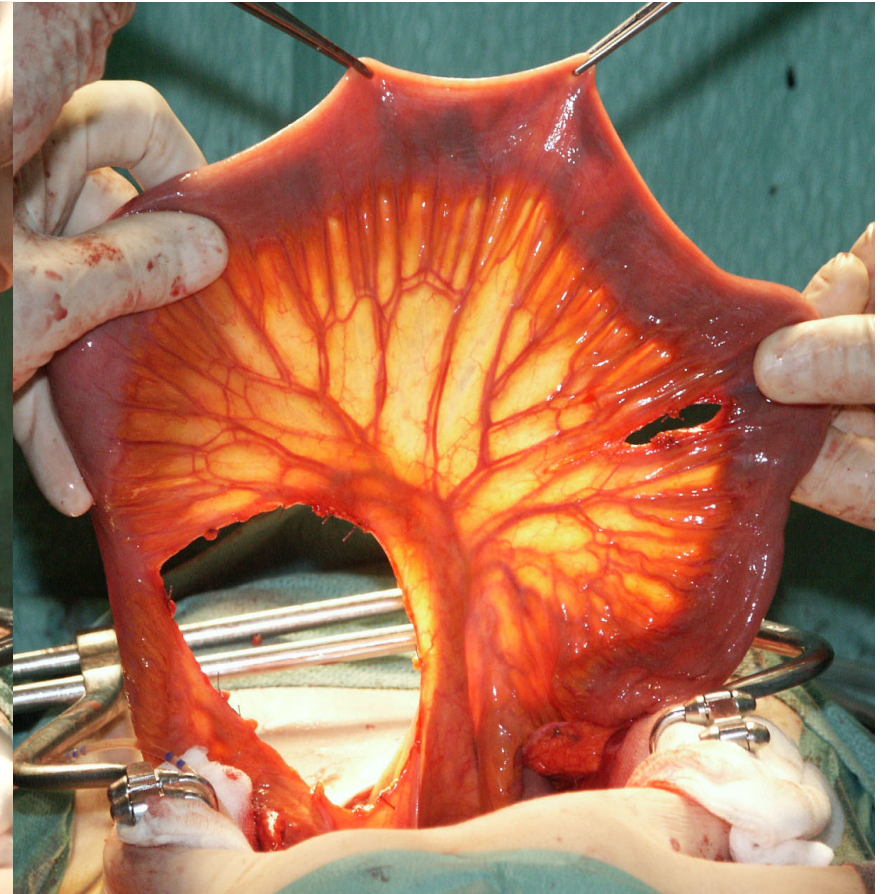
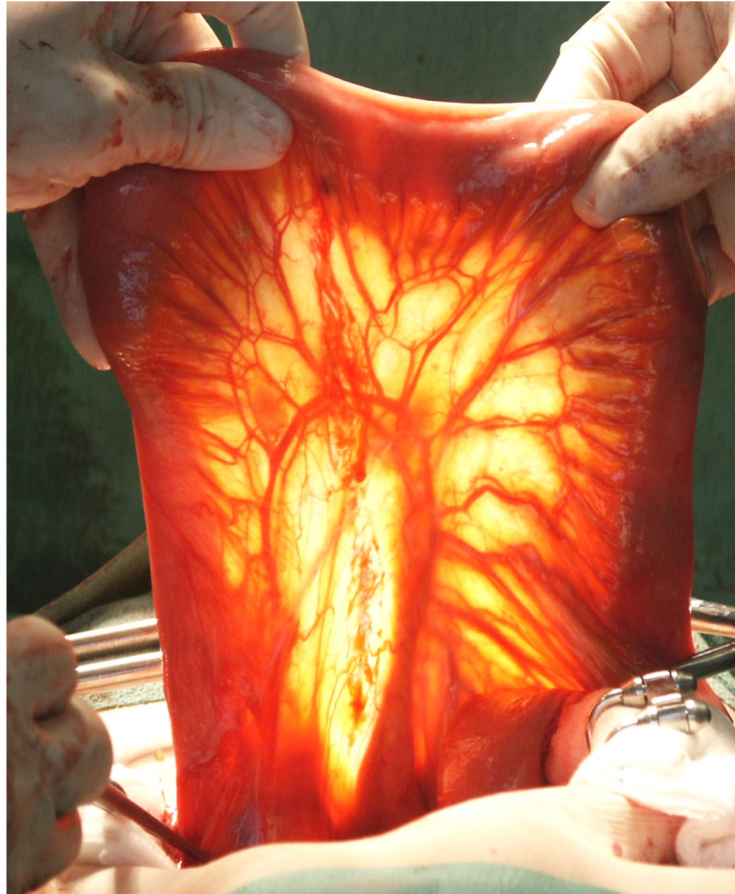
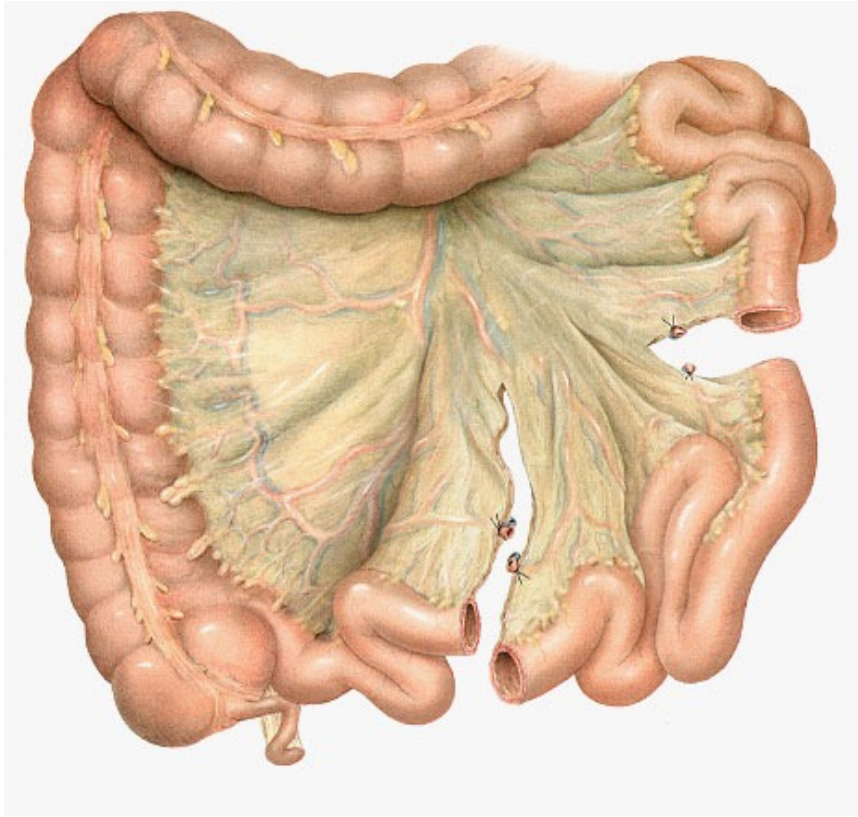


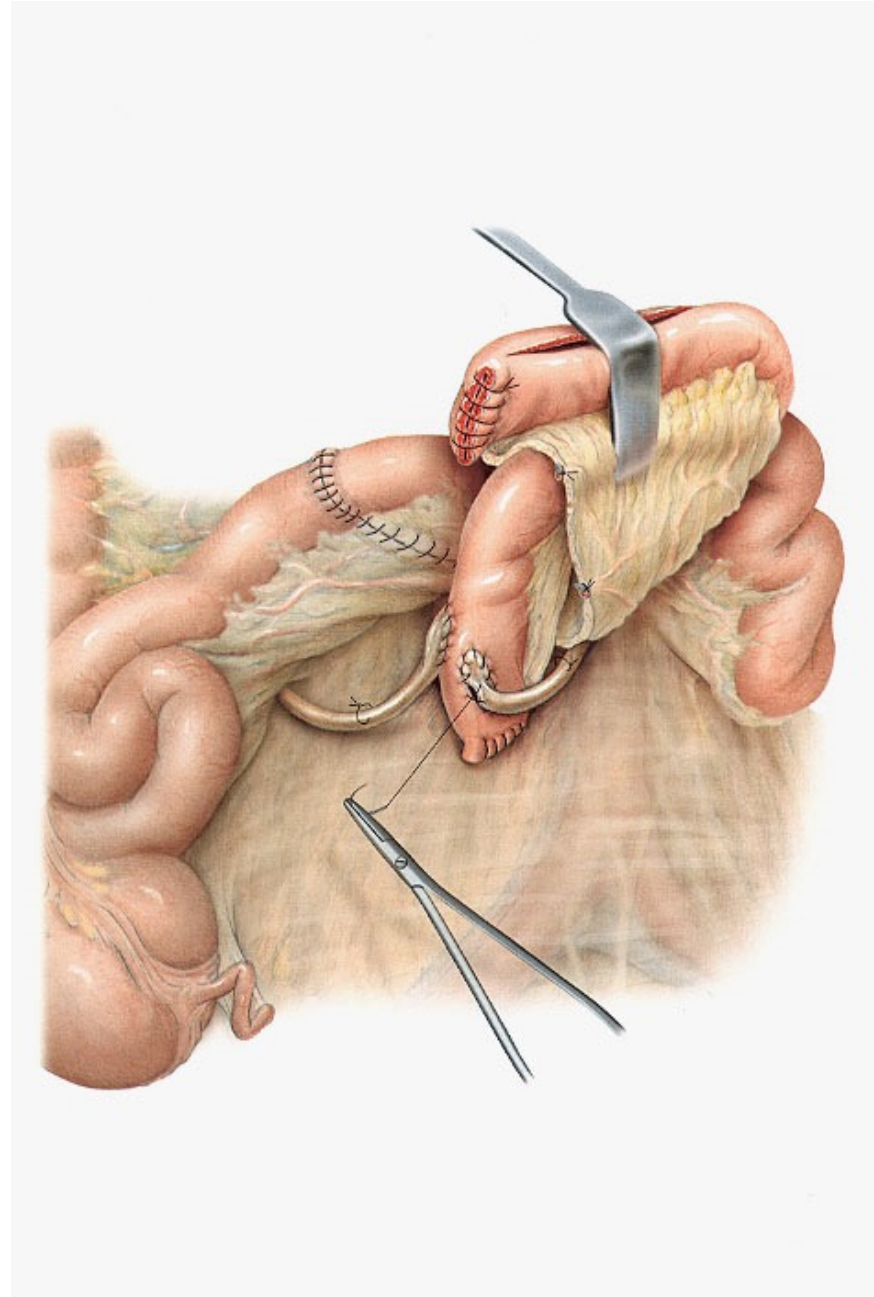
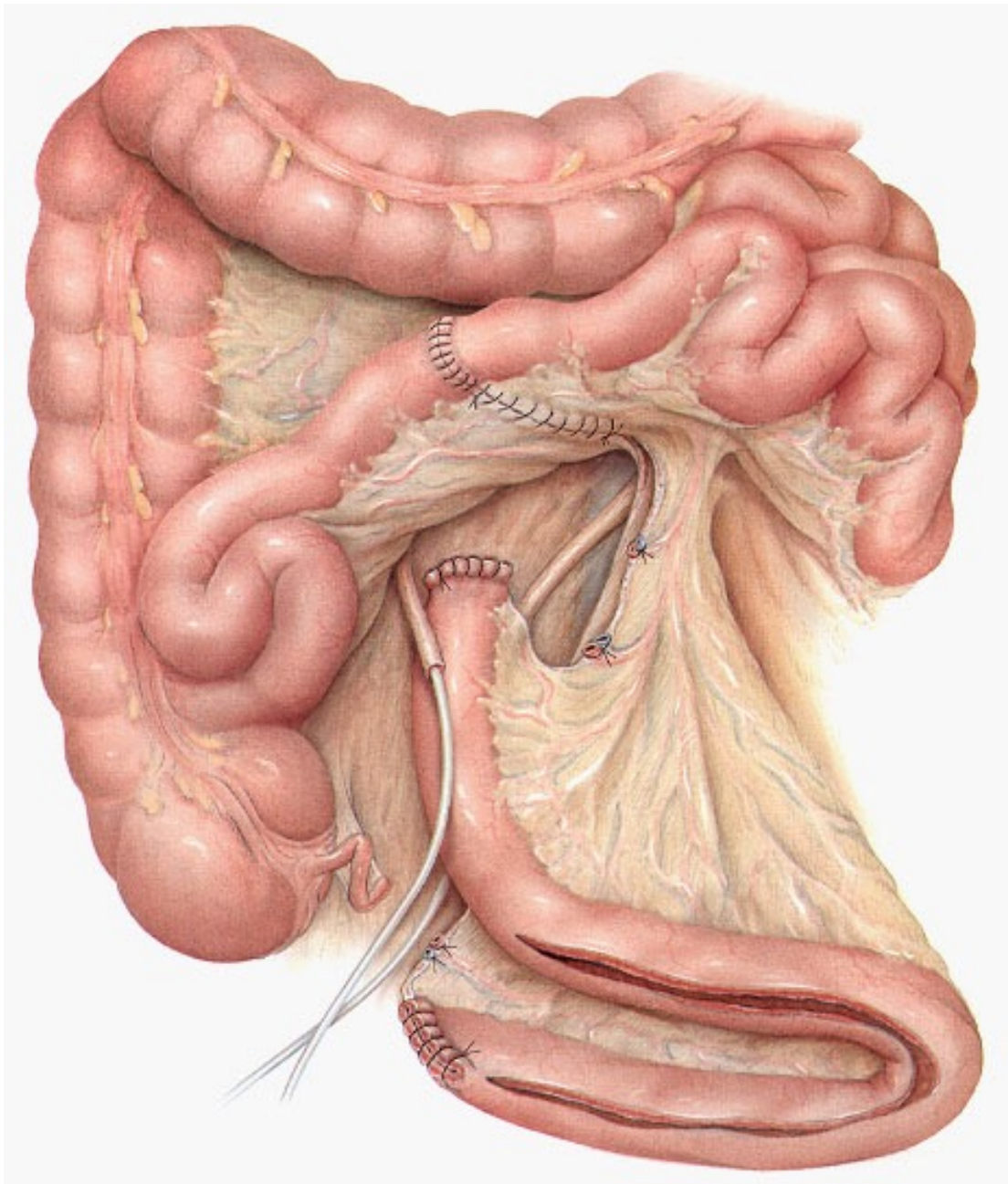


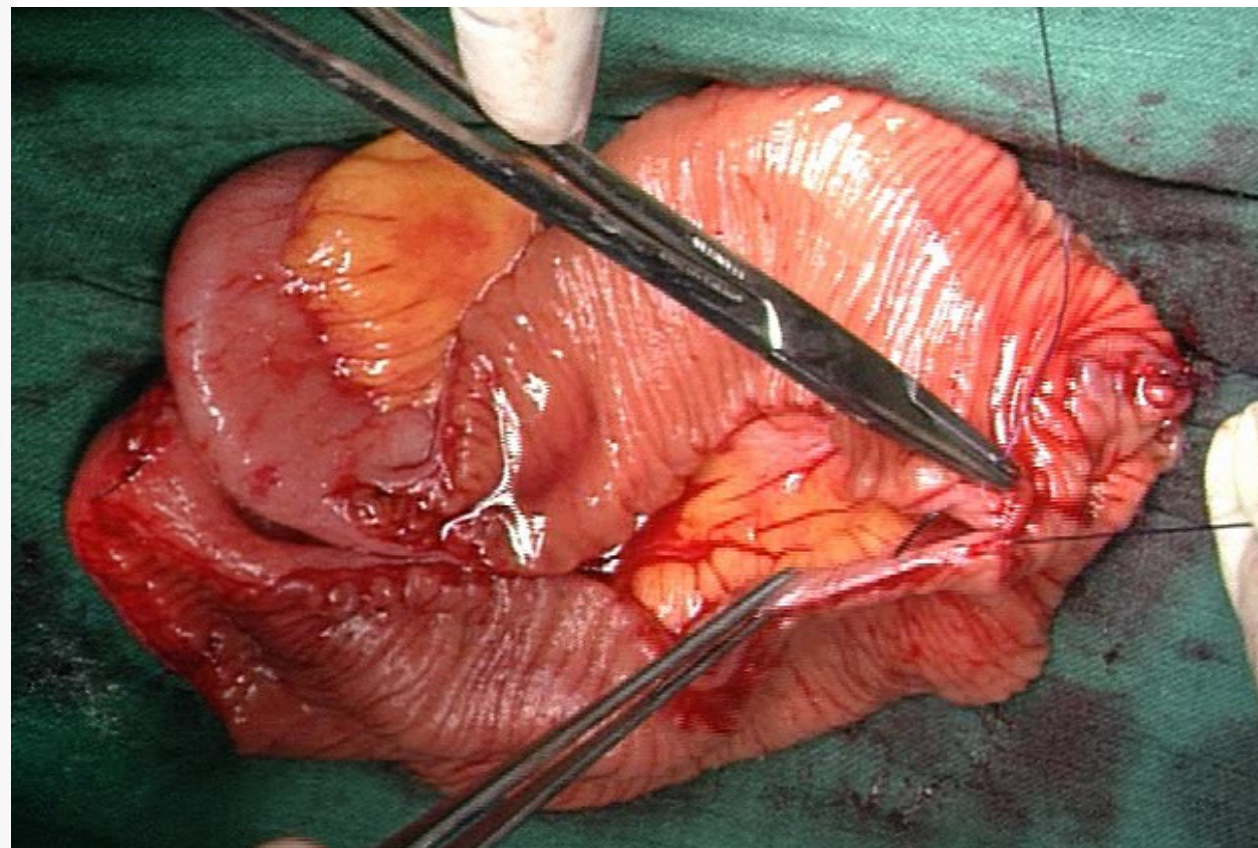
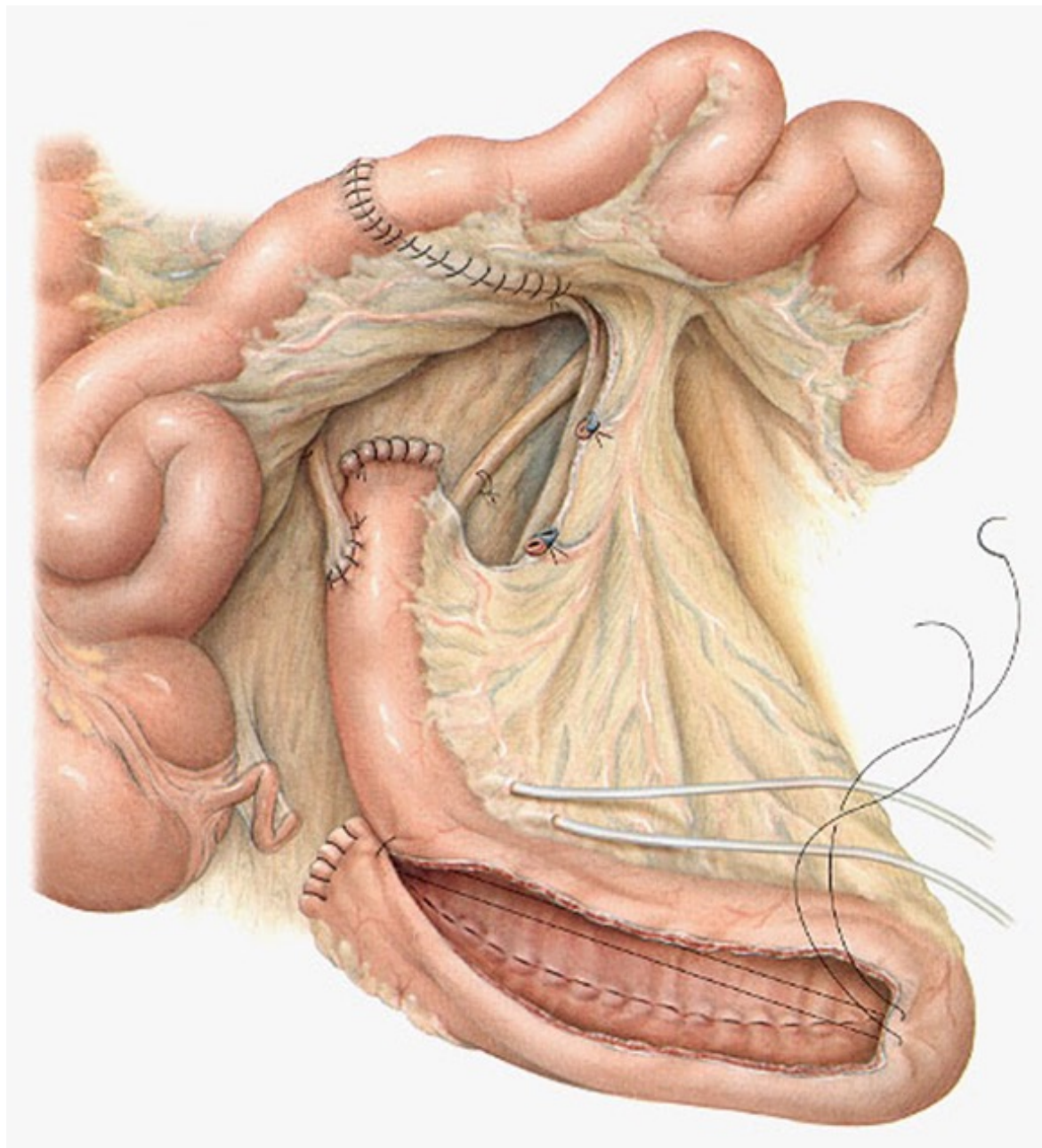
	Radius cm	Volume ml	Laplace law $p = \frac{T}{r}$
	1	125	$p = \frac{T}{1}$
	2	250	$p = \frac{T}{2}$
	4	500	$p = \frac{T}{4}$

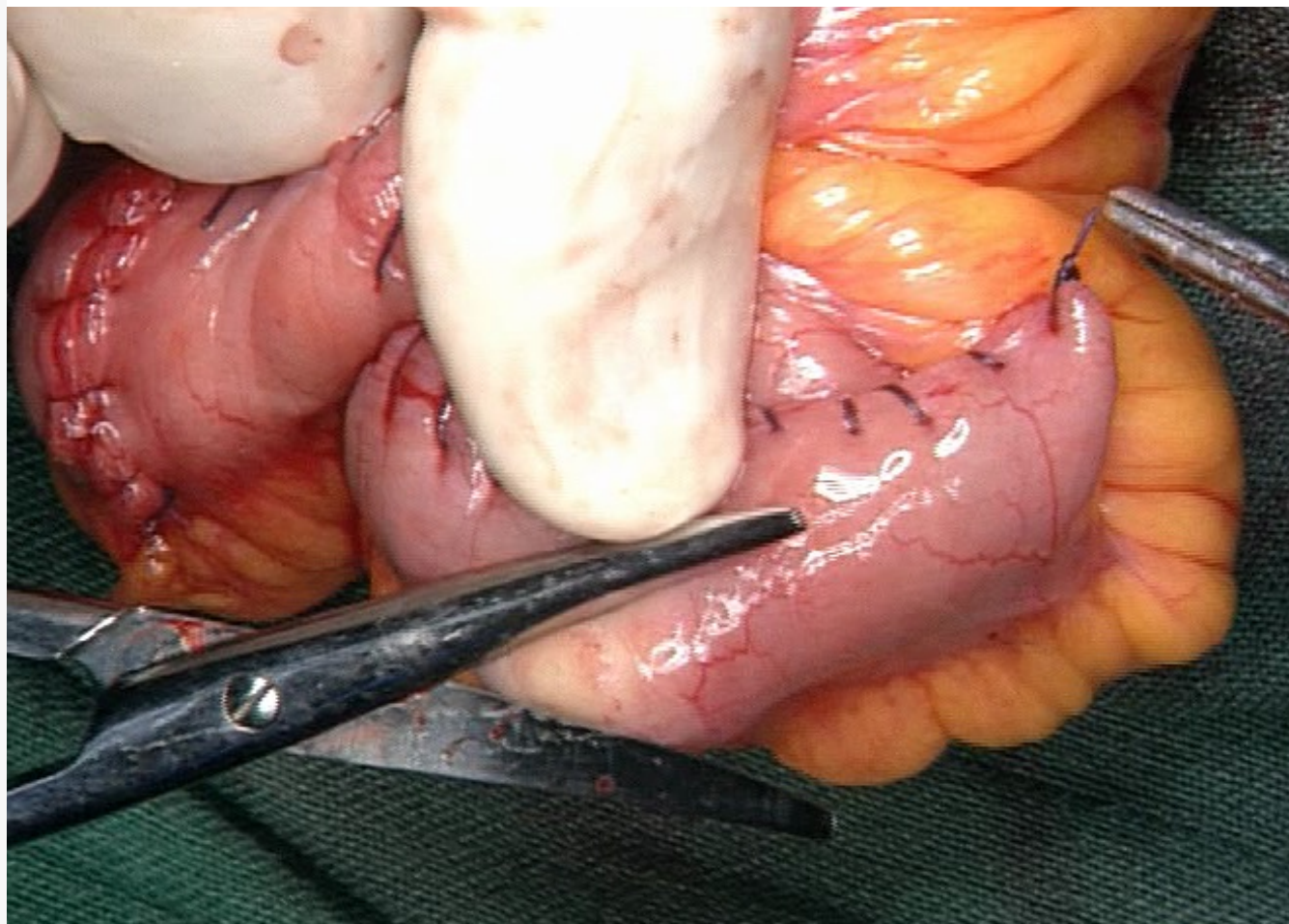
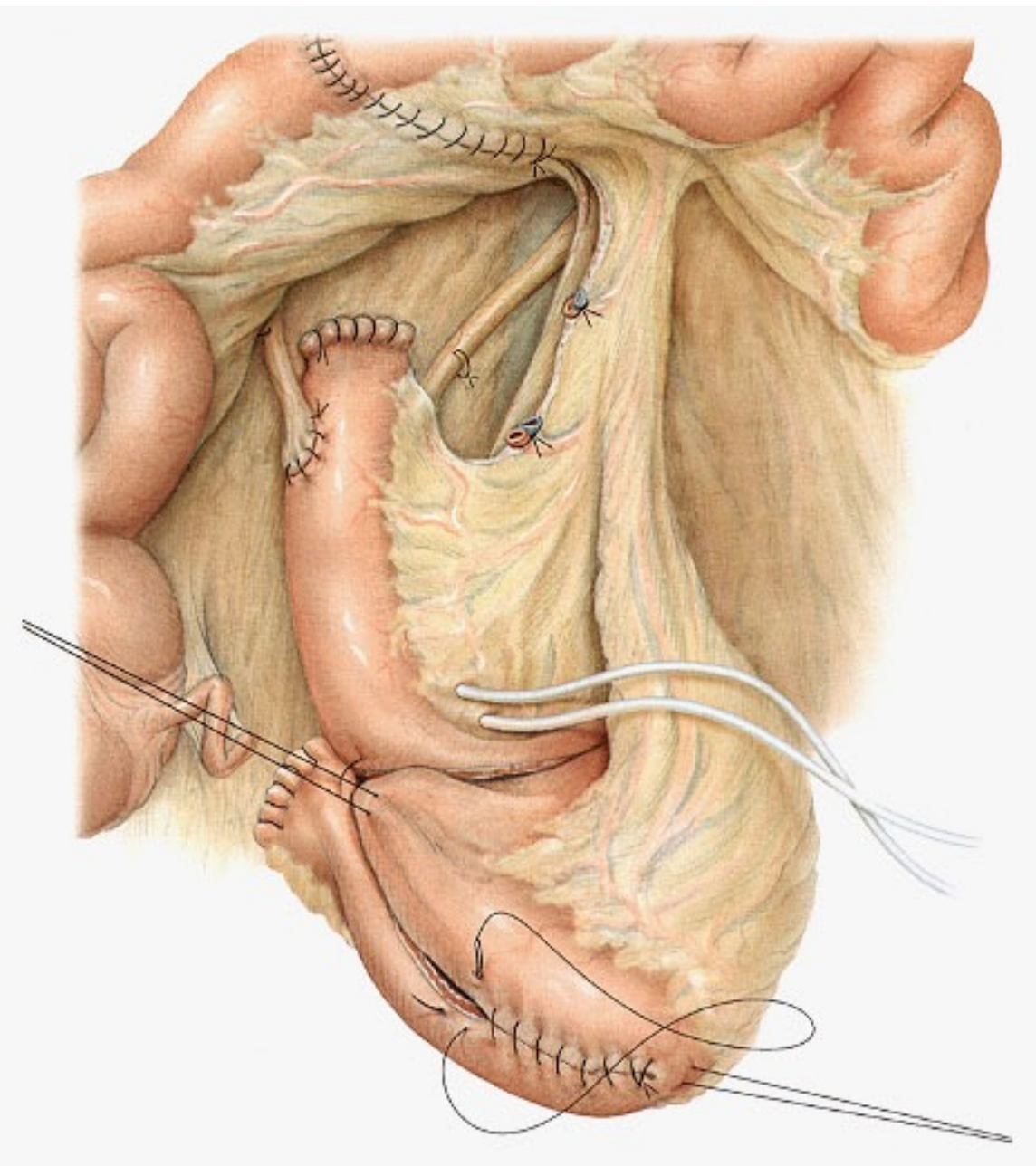


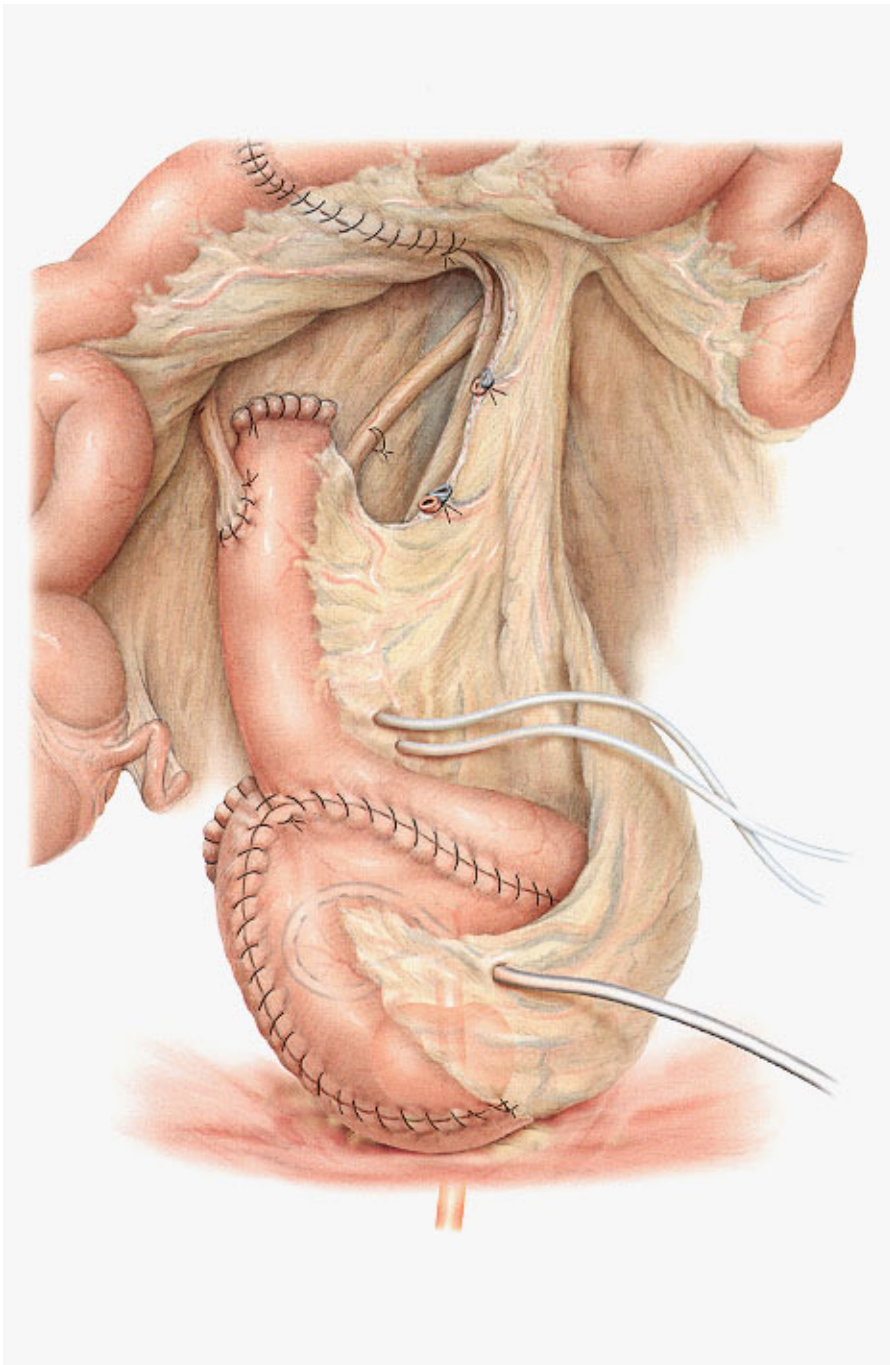
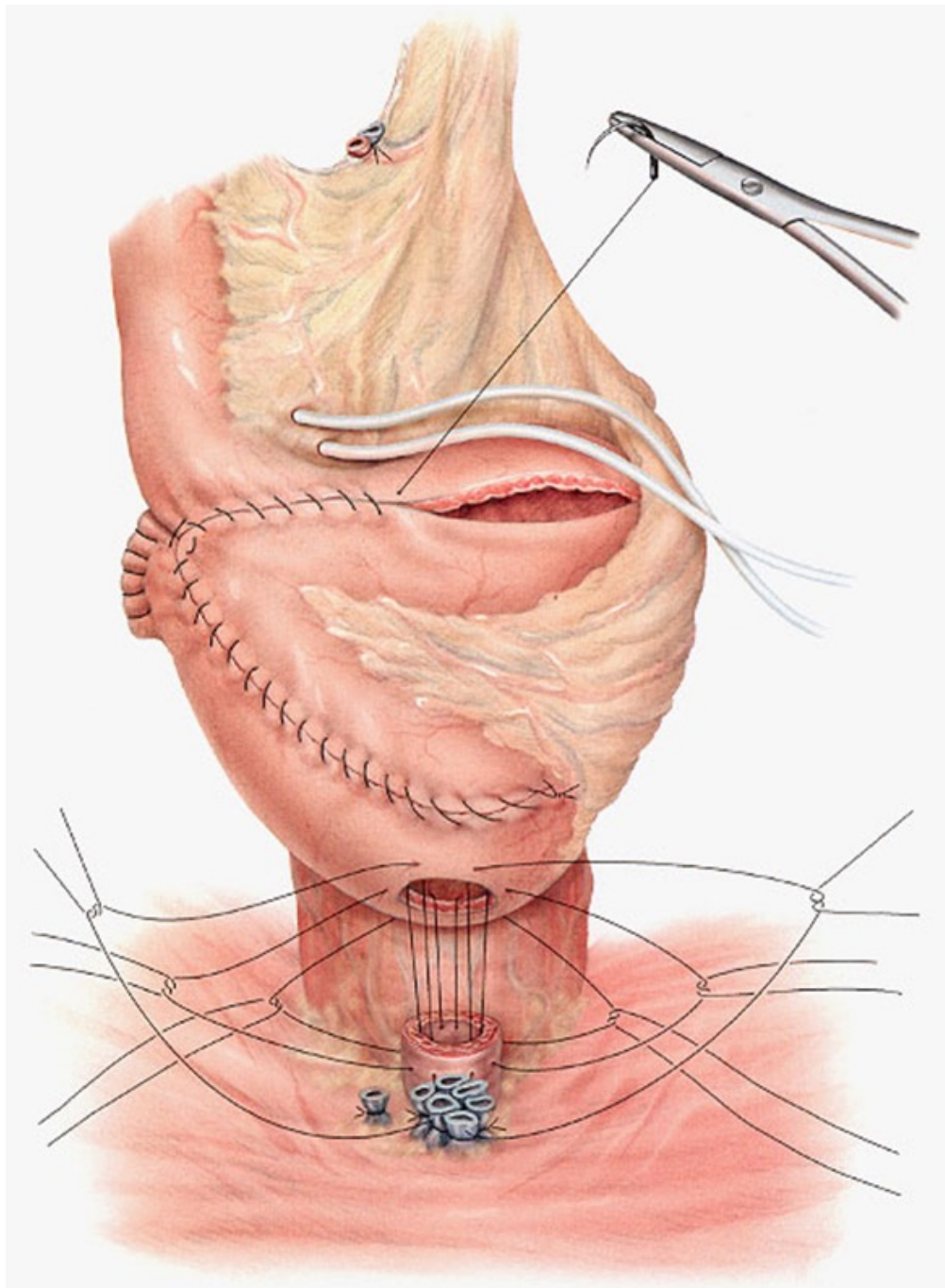
Ileal orthotopic bladder substitute (Studer)

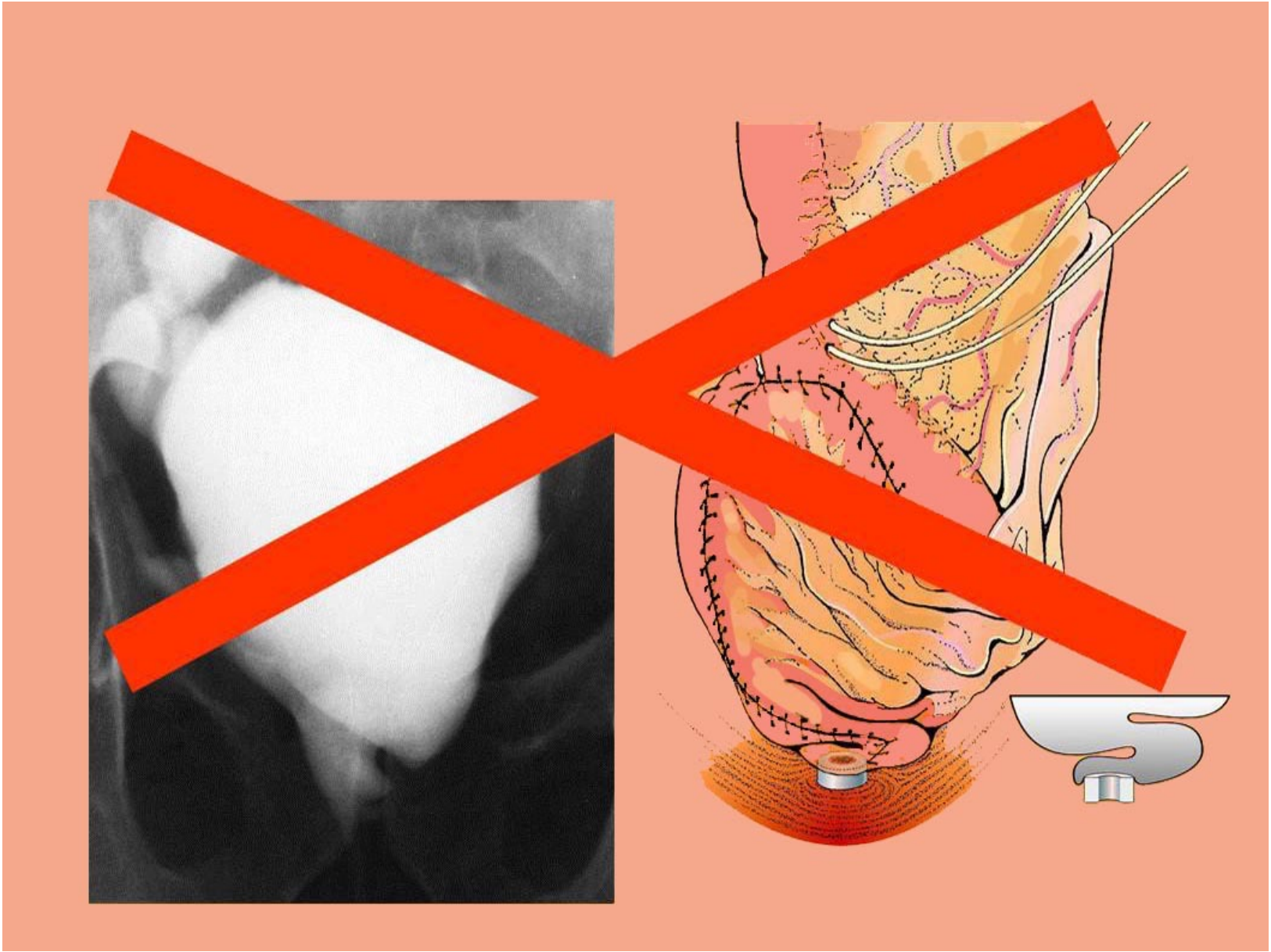
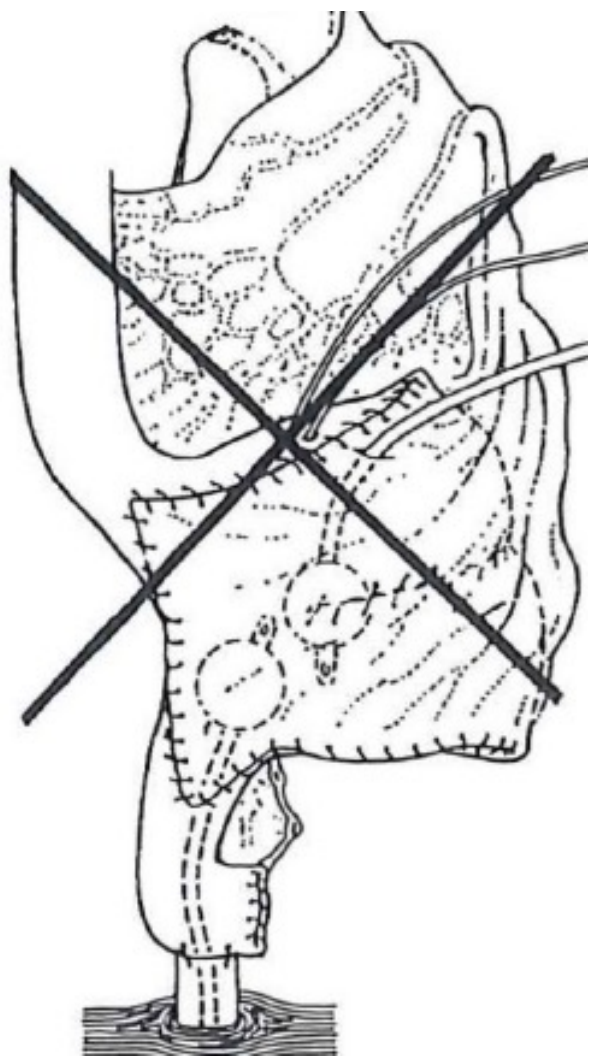












A Newer Form of Bladder Substitute Based on Historical Perspectives

U.E. Studer, D. Ackermann, G.A. Casanova, and E.J. Zingg

Seminars in Urology, Vol VI, No 1 (February), 1988: pp 57-65

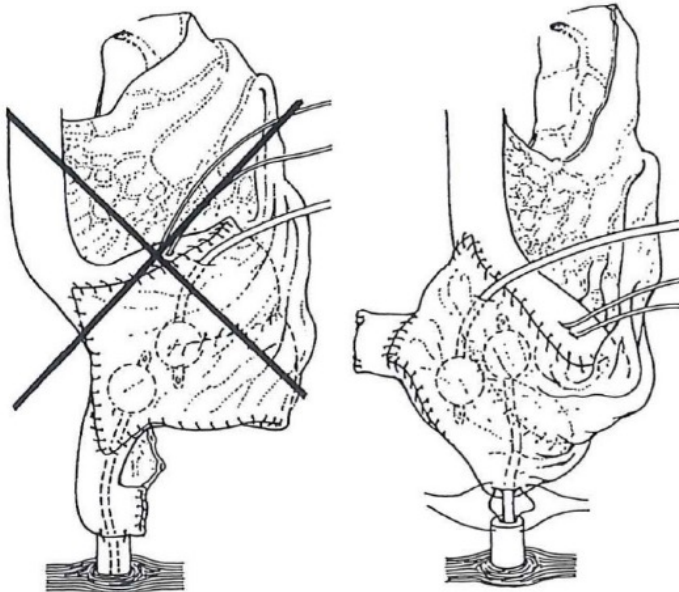


Fig 7. It is essential to anastomose the lowest part of the low-pressure pouch *directly* to the membranous urethra. The technique shown on the left with a short tubular segment between the pouch and membranous urethra is *not* recommended. Peristalsis within this segment results in intermittent incontinence due to pressure peaks of 80 cm H₂O, although the pressure within the pouch remains below 40 cm.

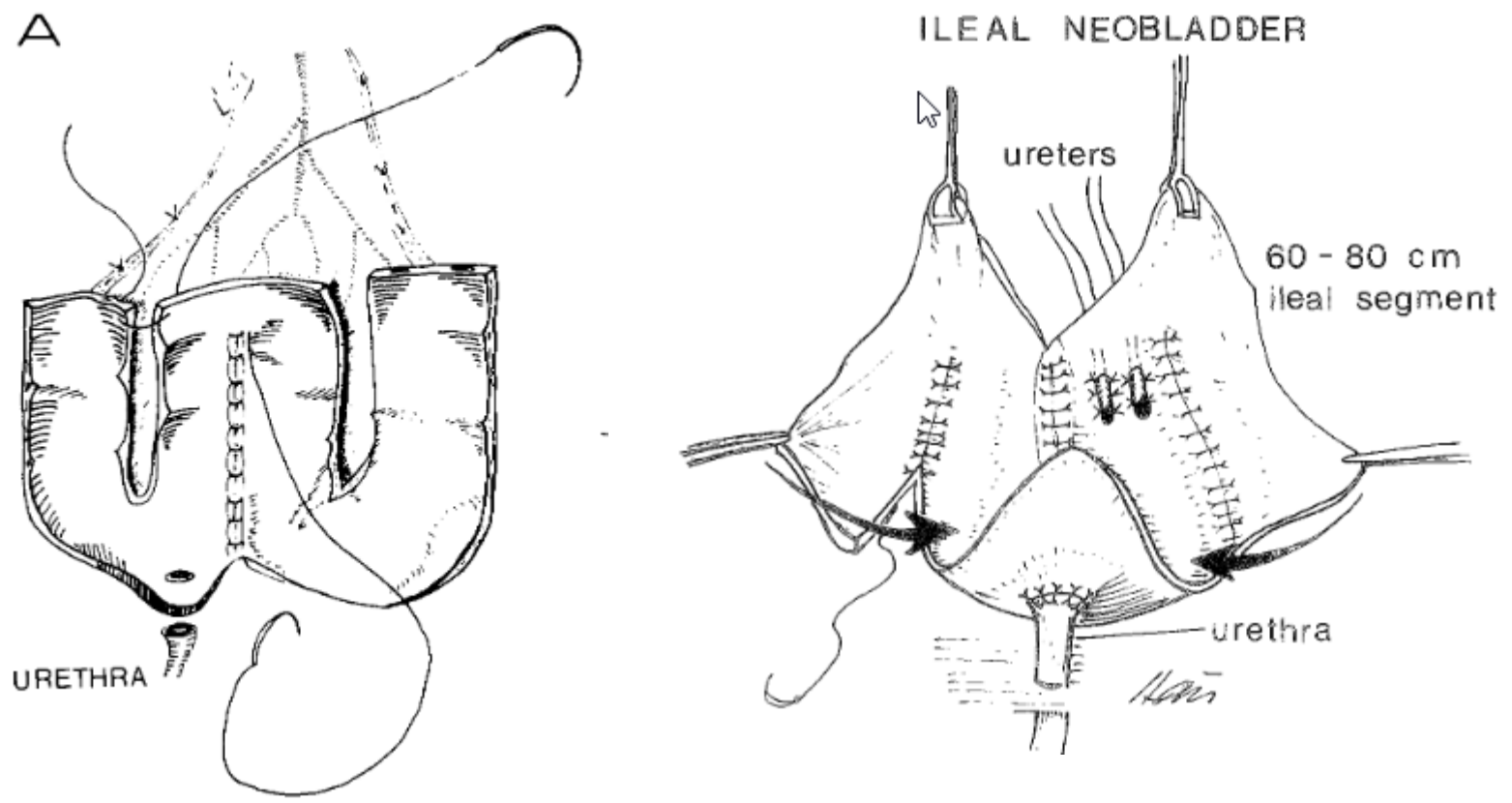
Summary:

- Promising results
- Upper tract function retained after 3 years
- Limited number of selected patients
- Cannot replace Kock or ileal conduit
- May become an interesting alternative for urinary diversion in selected male patients

THE ILEAL NEOBLADDER

R. E. HAUTMANN, G. EGGHART, D. FROHNEBERG AND K. MILLER

From the Division of Urology, University of Ulm, Ulm, Federal Republic of Germany



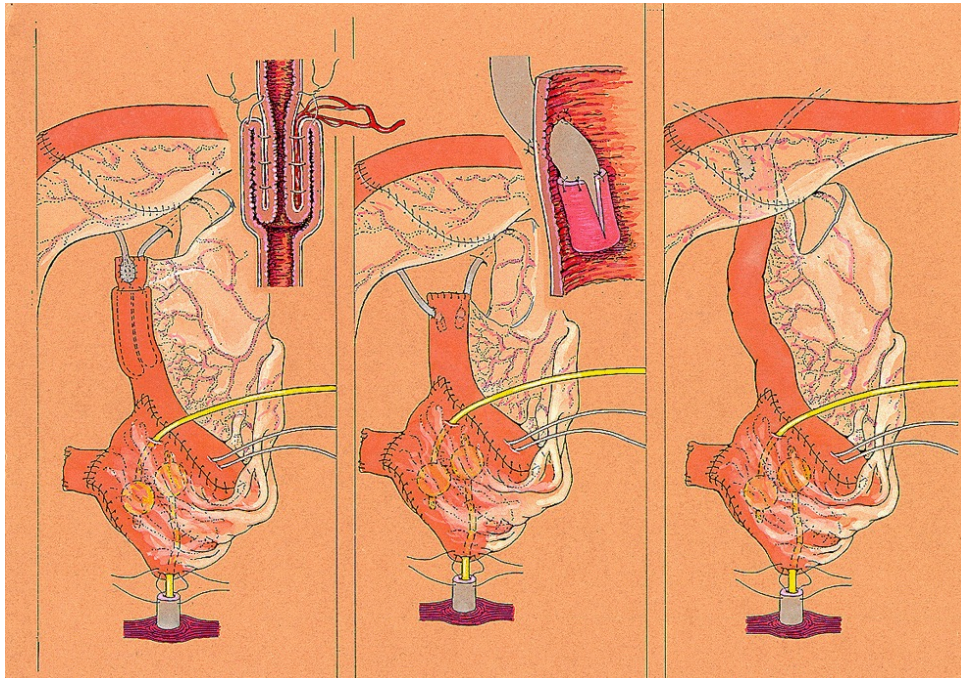


Original Articles

ANTIREFLUX NIPPLES OR AFFERENT TUBULAR SEGMENTS IN 70 PATIENTS WITH ILEAL LOW PRESSURE BLADDER SUBSTITUTES: LONG-TERM RESULTS OF A PROSPECTIVE RANDOMIZED TRIAL

URS E. STUDER, HANSJÖRG DANUSER, GEORGE N. THALMANN, JOHANNES P. SPRINGER AND
WILLIAM H. TURNER

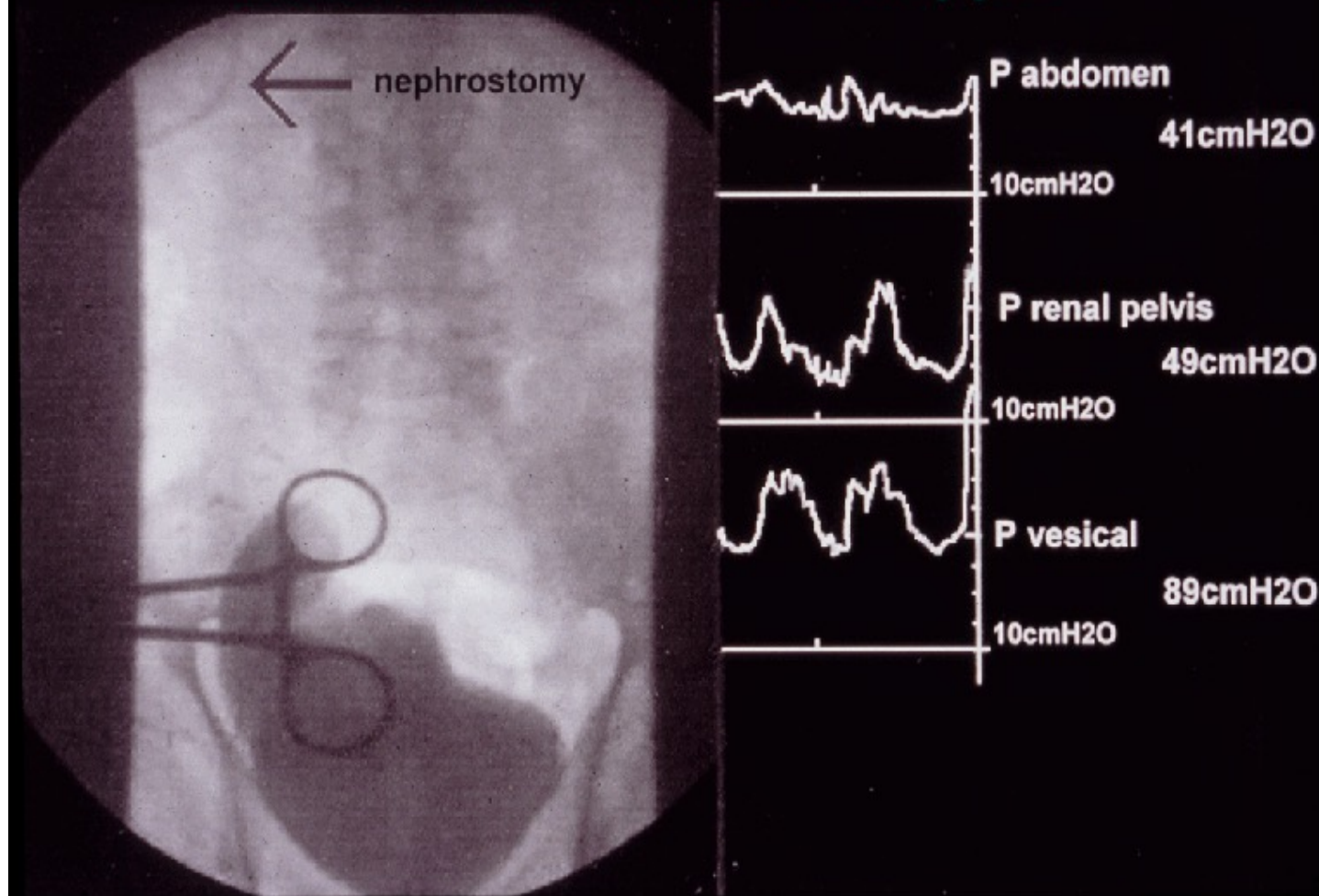
From the Department of Urology, University of Berne, Inselspital, Berne, Switzerland



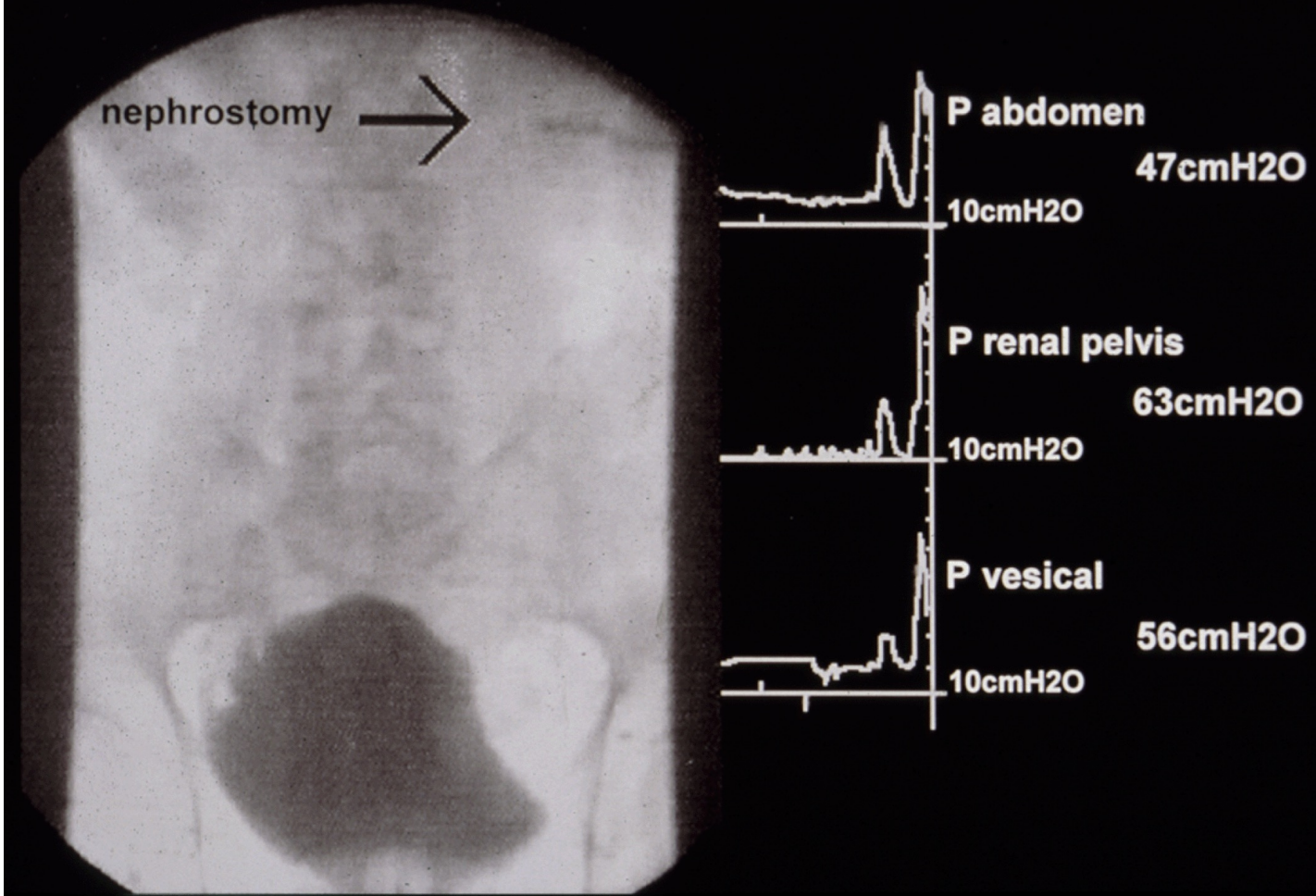
Triple nipple (intususcepted)
Split-everted
End-to-side open

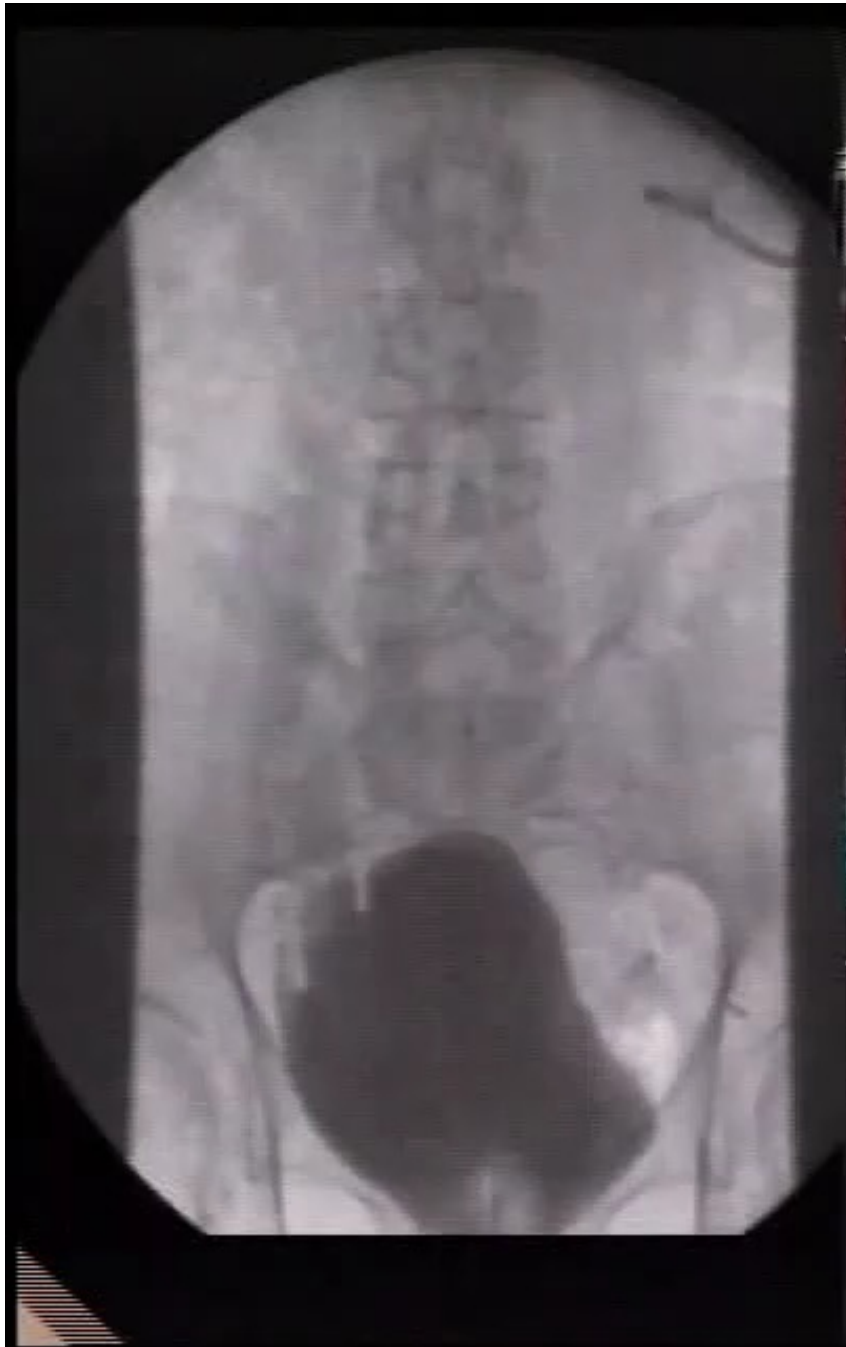


Patient with antireflux nipple



Patient with afferent tubular segment





Timer: min:sec 144:10

P abdomen

8

10cmH2O

P renal
pelvis

1

10cmH2O

P vesical

8

10cmH2O

Vinfus ml 189

Marker: mm 349

☞ **Original Articles**

**ANTIREFLUX NIPPLES OR AFFERENT TUBULAR SEGMENTS IN 70
PATIENTS WITH ILEAL LOW PRESSURE BLADDER SUBSTITUTES:
LONG-TERM RESULTS OF A PROSPECTIVE RANDOMIZED TRIAL**

URS E. STUDER, HANSJÖRG DANUSER, GEORGE N. THALMANN, JOHANNES P. SPRINGER AND
WILLIAM H. TURNER

From the Department of Urology, University of Berne, Inselspital, Berne, Switzerland

Severe upper tract dilatation due to ureteroileal or nipple stenosis occurred in **9** of 67 evaluable reno-ureteral units (**13.5%**) in patients with antireflux nipples and in **2** of 69 (**3%**) in patients with an afferent tubular segment.



Bladder Cancer

Intraoperative Continuous Norepinephrine Infusion Combined with Restrictive Deferred Hydration Significantly Reduces the Need for Blood Transfusion in Patients Undergoing Open Radical Cystectomy: Results of a Prospective Randomised Trial

Twenty Years Experience With an Ileal Orthotopic Low Pressure Bladder Substitute—Lessons to be Learned

To Stent or Not to Stent Perioperatively the Ureteroileal Anastomosis of Ileal Orthotopic Bladder Substitutes and Ileal Conduits? Results of a Prospective Randomized Trial

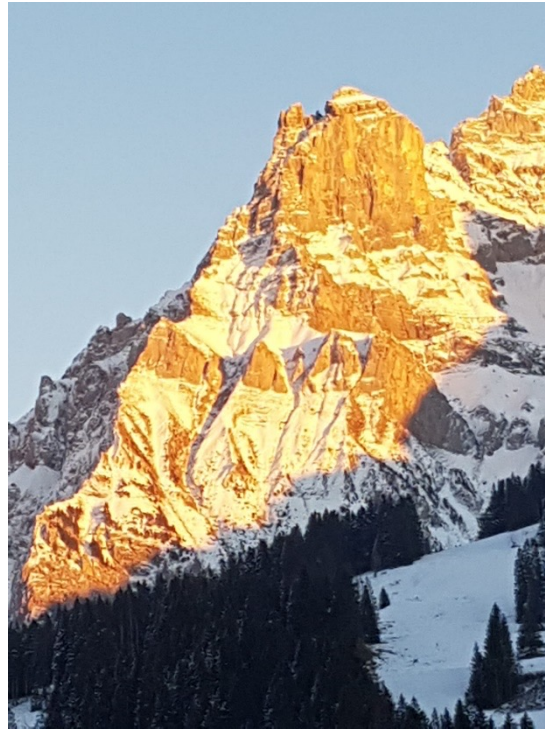
Reconstructive Urology

Bowel Function Remains Subjectively Unchanged After Ileal Resection for Construction of Continent Ileal Reservoirs

Effect of Urinary Tract Infection on Reservoir Function in Patients With Ileal Bladder Substitute



Thats why I feel so happy here



Kraft der Berge

