Perianale Fistels

Dr. David D.E. Zimmerman, *colorectaal chirurg*

TweeSteden en St. Elisabeth Ziekenhuis, Tilburg

Quiz: Who said the following:

"While the treatment of practically every other surgical illness has been improved in the past few decades, the treatment of perianal fistulas remains where it was twenty years ago and the general results of such treatment are but little if any more satisfactory than they were then…"

Rudolph Schouten

Steven Wexner

Willem Bemelman

Robin Philips

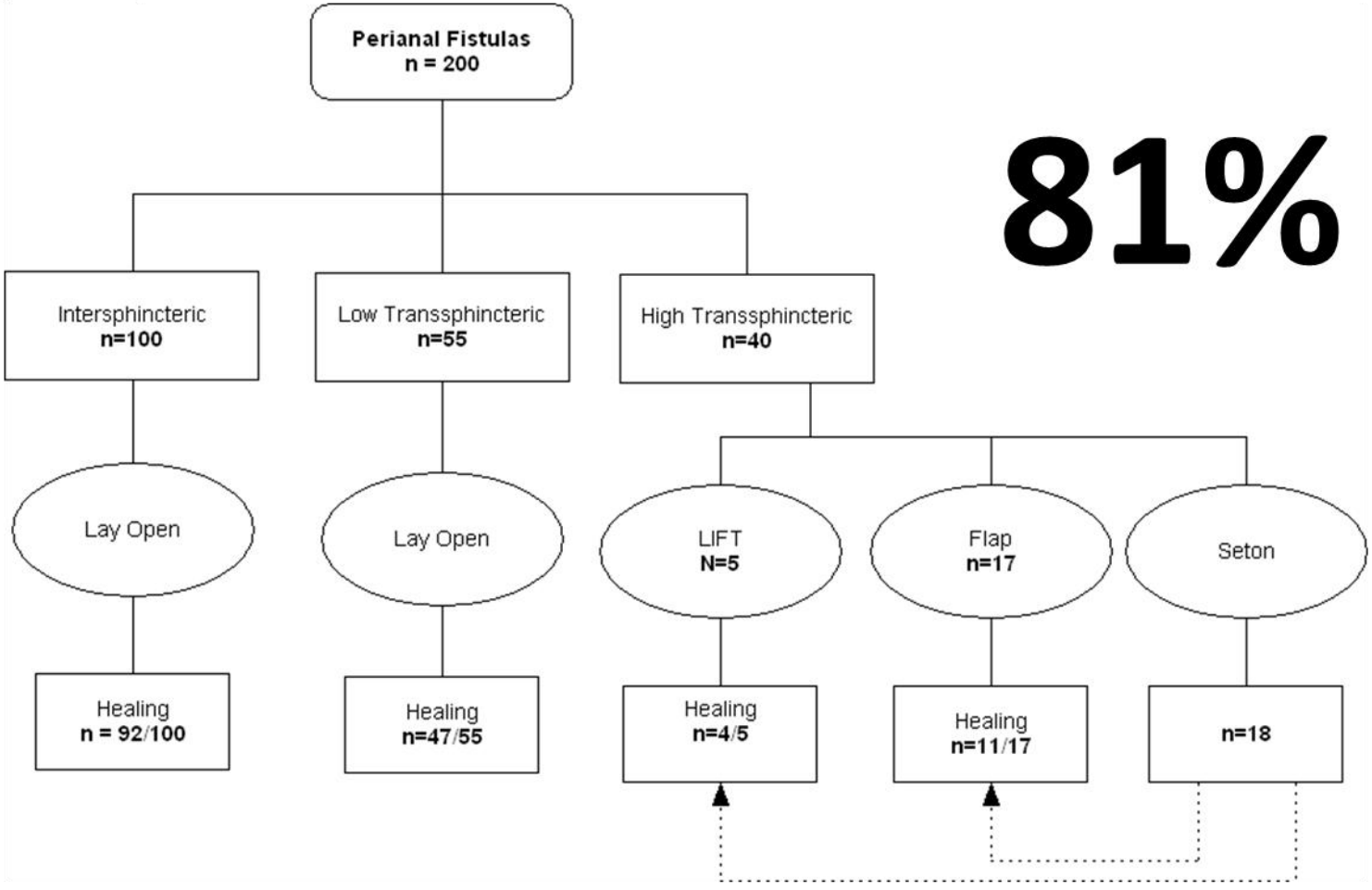
None of the above…

While the treatment of practically every other surgical malady has been improved in the past few decades, the treatment of fistula in ano remains about where it was twenty years ago and the general results of such treatment are but little if any more satisfactory than they were then.

Prof. Arthur Elting, 1912

"Bare Buttocks"

The Tilburg Experience 2012-2013



81%

Etiology

PATHOGENESIS AND TREATMENT OF FISTULA-IN-ANO

BY

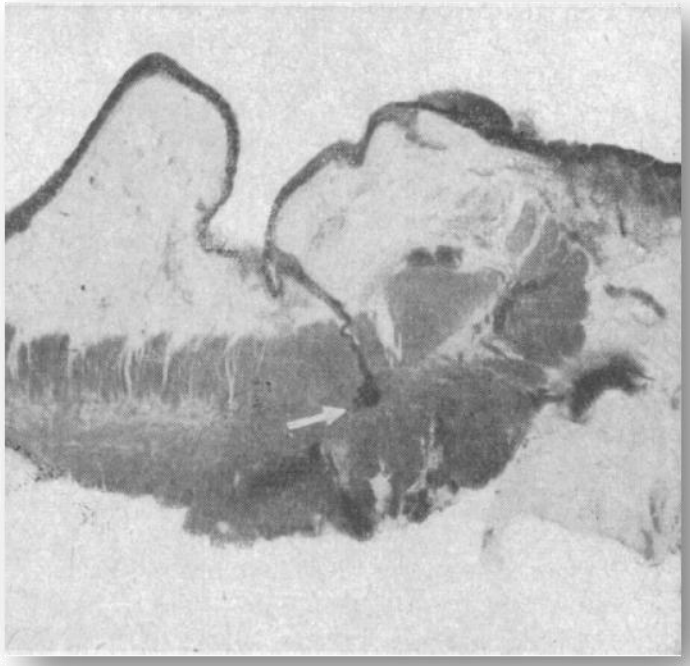
A. G. PARKS, M.Ch., F.R.C.S., M.R.C.P.

Consultant Surgeon, the London Hospital and St. Mark's Hospital, London

From the Research Department, St. Mark's Hospital

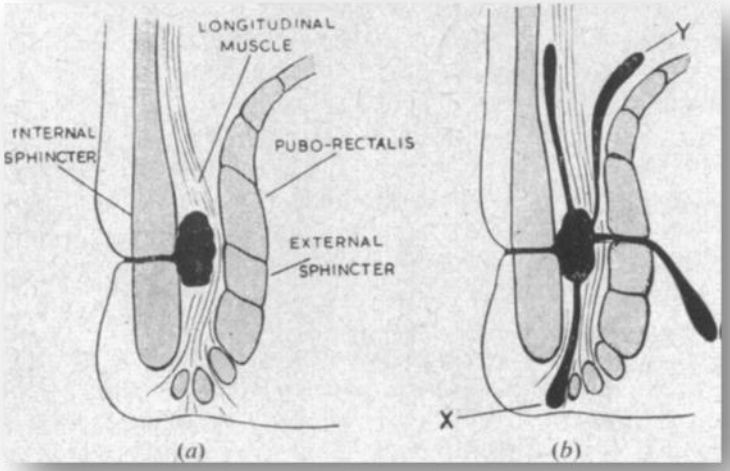
1961

Anal Glands



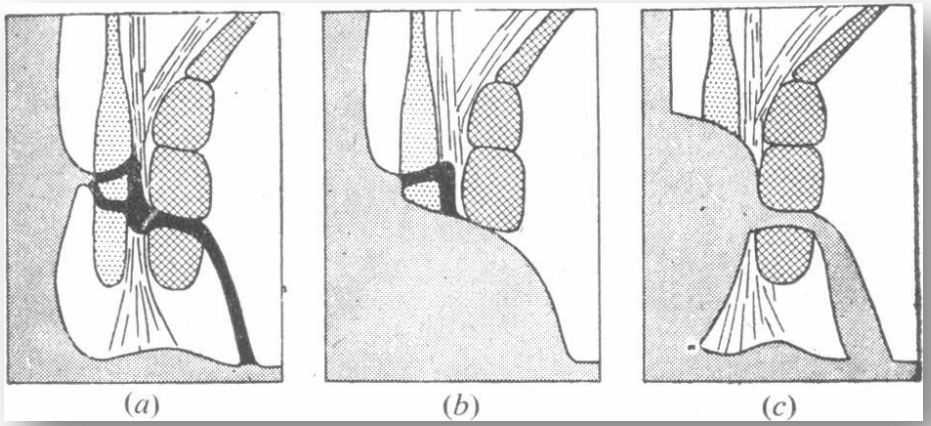
- N = 44 – Kadaverstudie
- 100 % anale klieren, tot 2 klieren per crypte
- 50 % van de crypten geen klier
- Vertakking ca 1 cm^2
- Nooit craniaal van de crypte
- Intermediair epitheel (zoals anale kanaal)
- 2/3 vertakt IN de interne sphincter
- 15 % vertakt tot intersphincterische ruimte

“Cryptoglandular Theory”



a fistula-in-ano is virtually a sinus secondary to a diseased anal gland, though the minute duct opening into an anal crypt makes it technically a fistula. This would fit in with the practical observation that about half the cases of anal fistula do not have a clinically detectable internal opening

“Cryptoglandular Theory”



- N = 30
- Partiele Interne Sphincterotomie met excisie Intersphincterische ruimte
- 8 x cysteus vergrootte klier (met abces)
- 13 x abces of fistel met klierepitheel

→ 90% cryptoglandulair

THE

BRITISH JOURNAL OF SURGERY

VOL. 54 DECEMBER, 1967 No. 12

ORIGINAL PAPERS

A CRITIQUE OF ANAL GLANDULAR INFECTION IN THE AETIOLOGY AND TREATMENT OF IDIOPATHIC ANORECTAL ABSCESSES AND FISTULAS

BY J. C. GOLIGHER, M. ELLIS, AND A. G. PISSIDIS

UNIVERSITY DEPARTMENT OF SURGERY AND THE RECEIVING ROOM, GENERAL INFIRMARY, LEEDS

Table II.—INCIDENCE OF INTERSPHINCTERIC ABSCESS IN 32 SPECIALLY DISSECTED CASES OF ANAL FISTULA

TYPE OF FISTULA	NO. OF CASES DISSECTED	NO. OF CASES WITH INTERNAL OPENING	NO. OF CASES WITH DEFINITE INTER-SPHINCTERIC ABSCESS	NO. OF CASES WITHOUT INTER-SPHINCTERIC ABSCESS BUT WITH PART OF THE TRACK LYING IN THE INTER-SPHINCTERIC PLANE
Low anal (perianal)	28	13	5	8
Posterior horseshoe (ischio-rectal)	4	2	1	0
Total	32	15	6	8

It would seem important, therefore, that the validity of their claims should be subjected to independent critical assessment, a task which we have attempted in this paper.

- N = 60 (waarvan 8 acute abcessen)
- Slechts 6 / 32 intersphincterisch abces

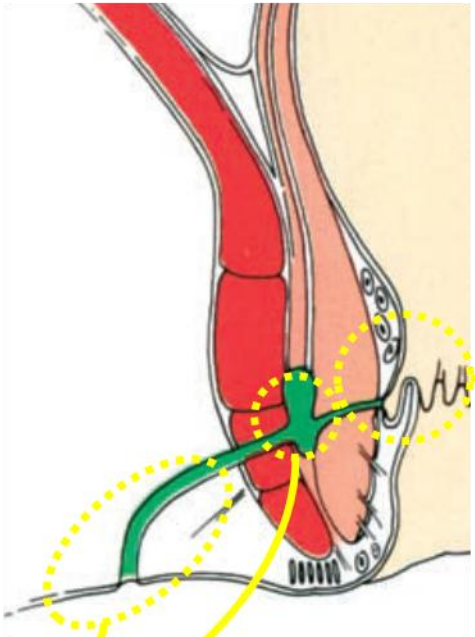
→ 19% cryptoglandulair

Epithelialization

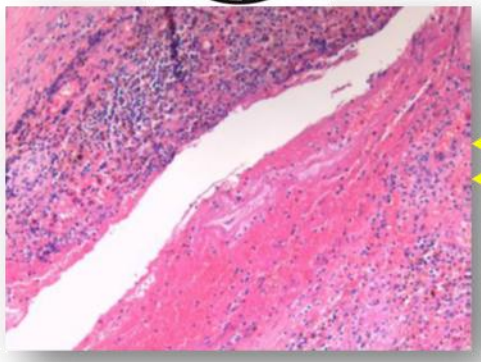
Are perianal fistulas epithelialized?

→ The Epithelium Myth…

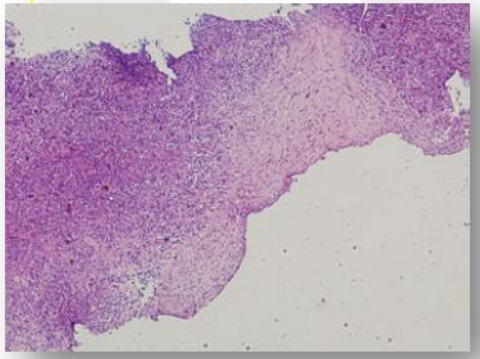
Epithelialization



9/12 (Amsterdam)



11/44 (Rotterdam)
4/12 (Amsterdam)

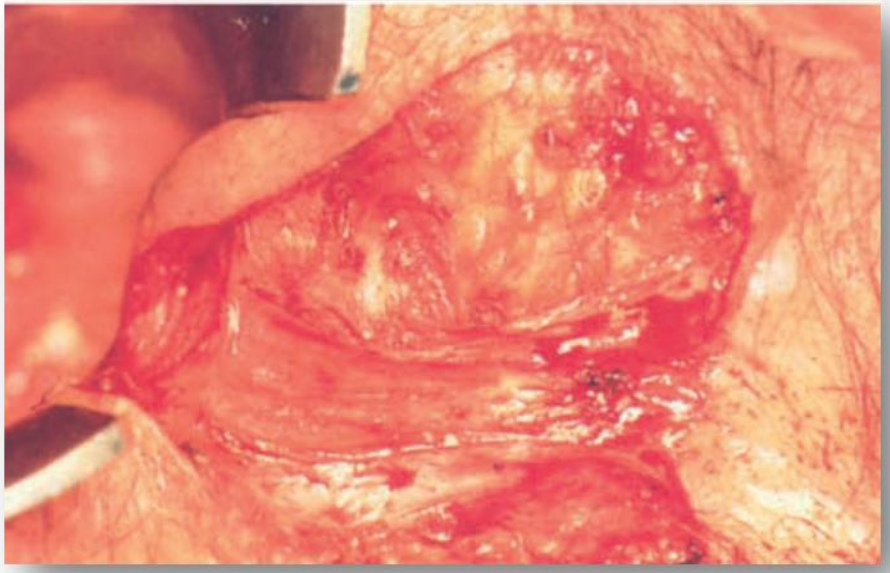


Mitalas et al.

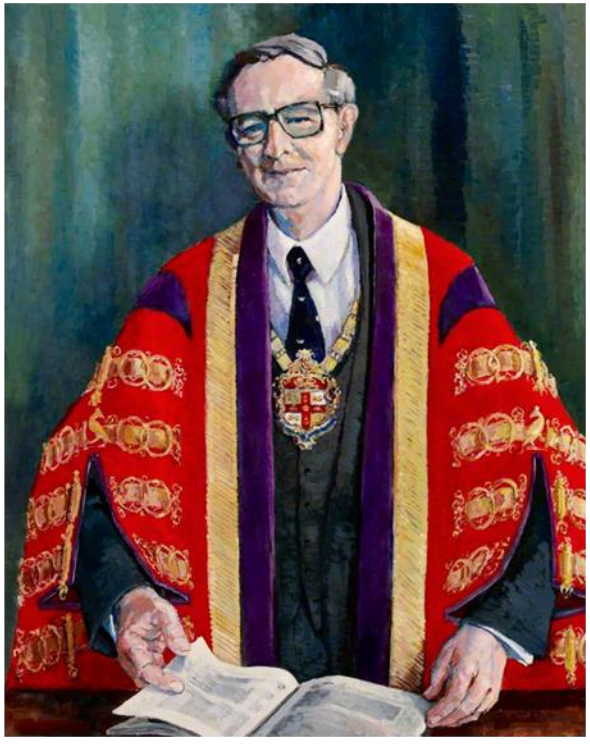
Van Koperen et al.

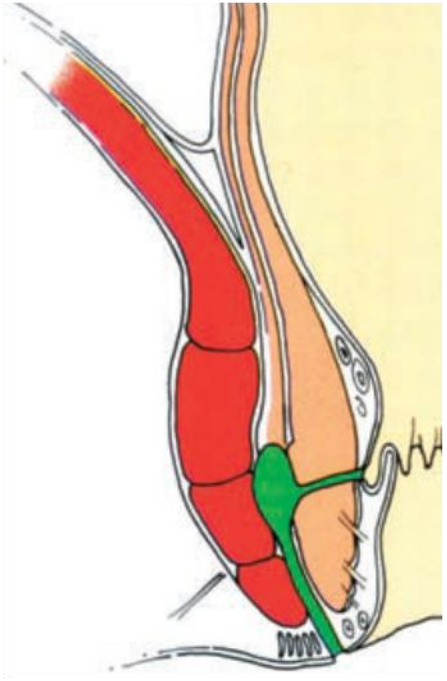
Fistulotomy

90-100% Healing Rate

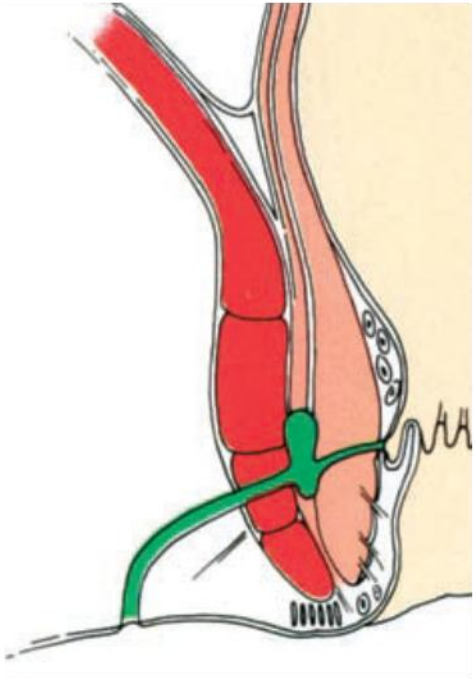


Parks' Classification





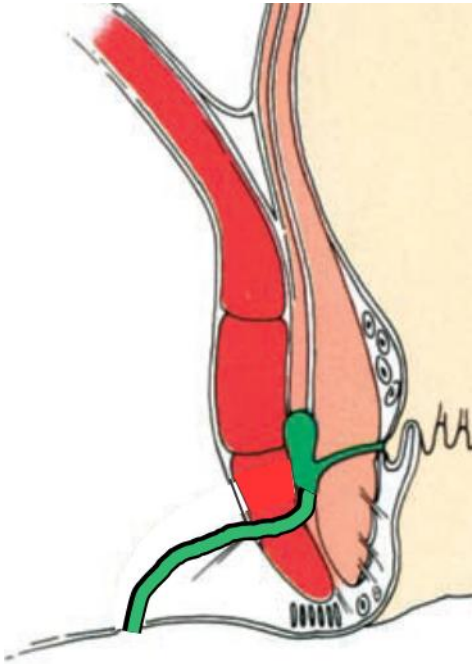
Intersphincteric



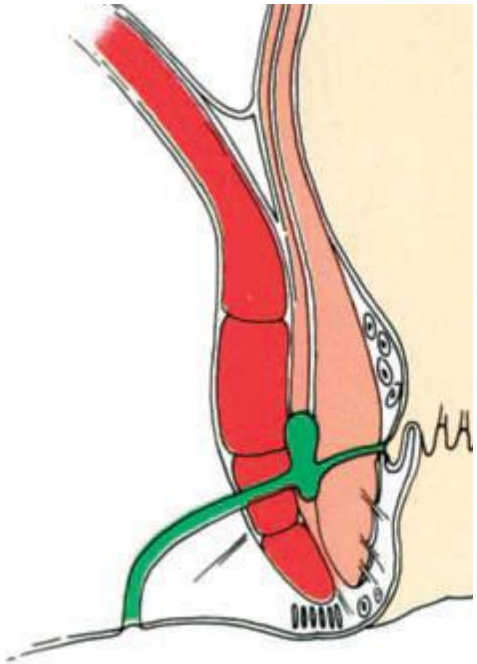
Transsphincteric

1967

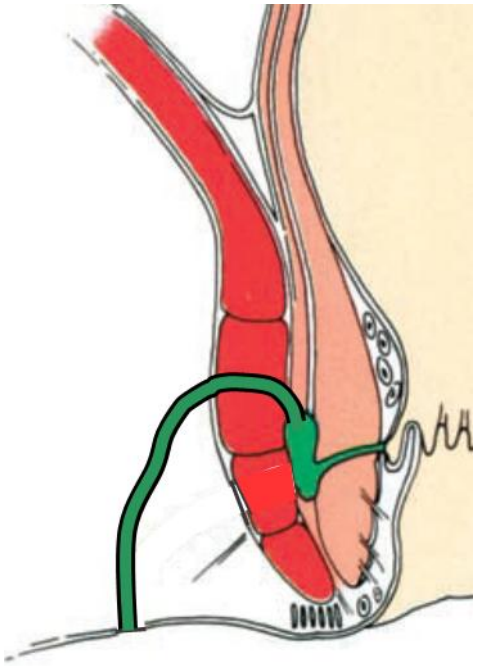
Parks' Classification



Low
Transsphincteric
(lower 1/3)



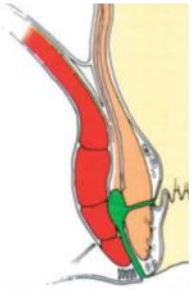
Mid
Transsphincteric



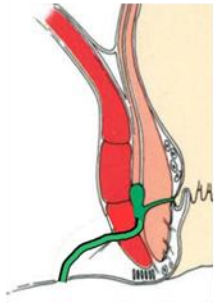
High
Transsphincteric
(upper 1/3)

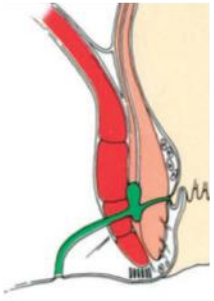
1967

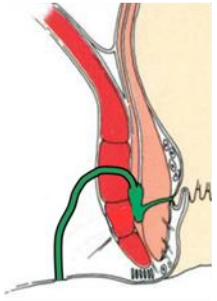
Incontinence after Simple Fistulotomy



8-39 %







33-54 %

Belliveau 1983; Lunniss 1994; van Tets 1994, Garcia 1996

1912:

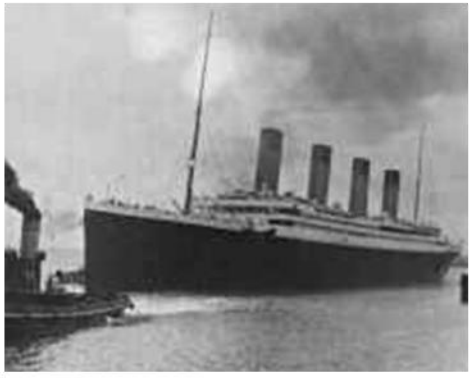
THE TREATMENT OF FISTULA IN ANO,*

WITH ESPECIAL REFERENCE TO THE WHITEHEAD OPERATION.

BY ARTHUR W. ELTING, M.D.,

OF ALBANY, N. Y.,

Professor of the Practice of Surgery in the Albany Medical College.



With interrupted silk sutures, the bowel, mobilized and cut off above the level of the internal fistulous opening, is approximated to the skin at the anal margin, the sutures being placed in such a way as to obliterate all dead space.

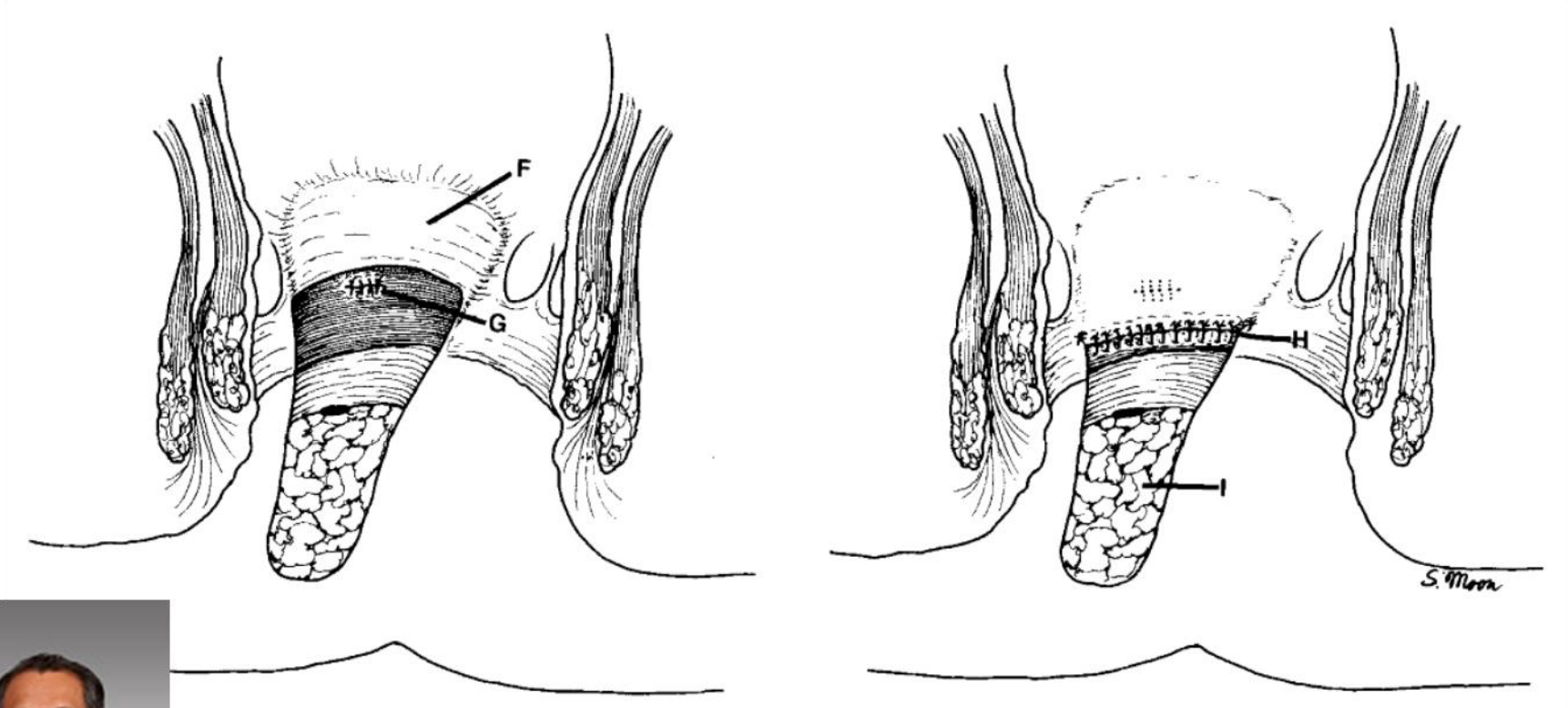
TweeSteden ziekenhuis
zorgzaam & professioneel

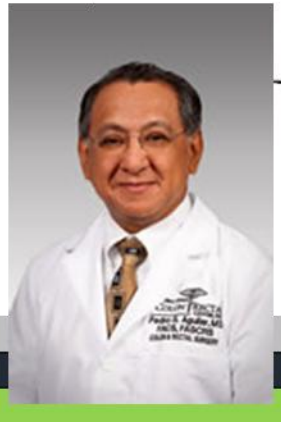
St. Elisabeth Ziekenhuis

Transanal Advancement Flap Repair

(Transanale Mucosa Verschuivingsplastiek)

Mucosal Advancement (Aguilar - 1985)





Partial or Full Thickness 4 cm. lenghth

Transanal Advancement Flap Repair (Willis - 2000)

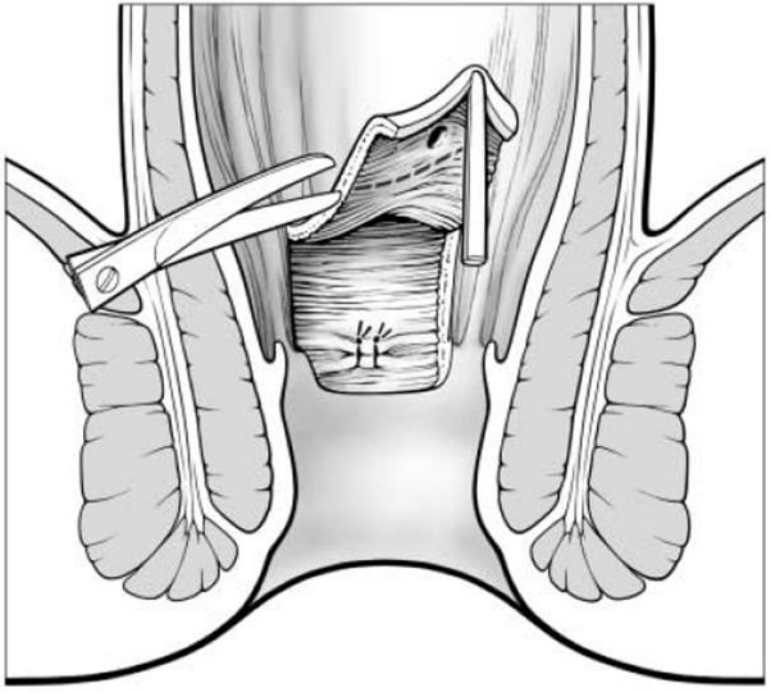


Abb. 2. Sparsame Excision der inneren Fistelöffnung, Internus-Naht nach Kürettage des Intersphinctärraums, Präparation eines türflügelförmigen Muskelschleimhautlappens

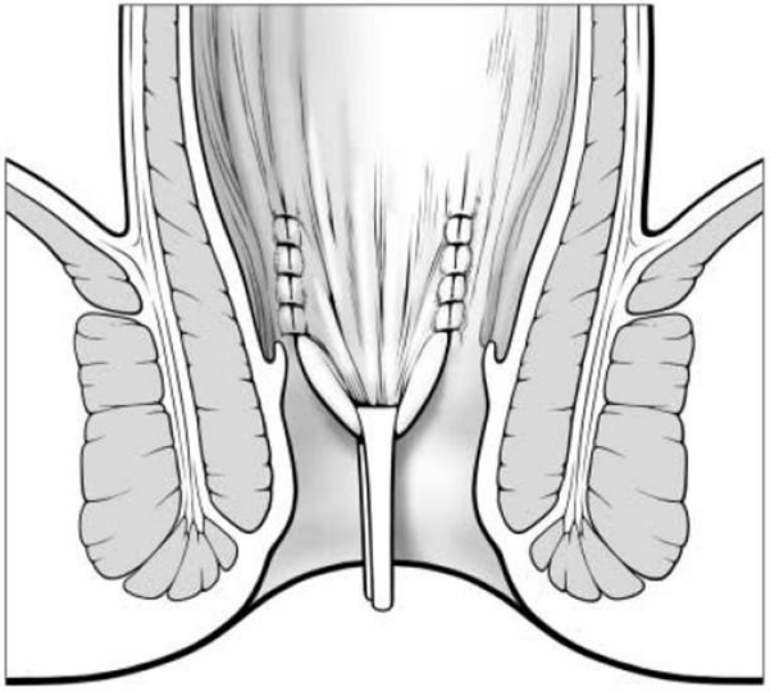
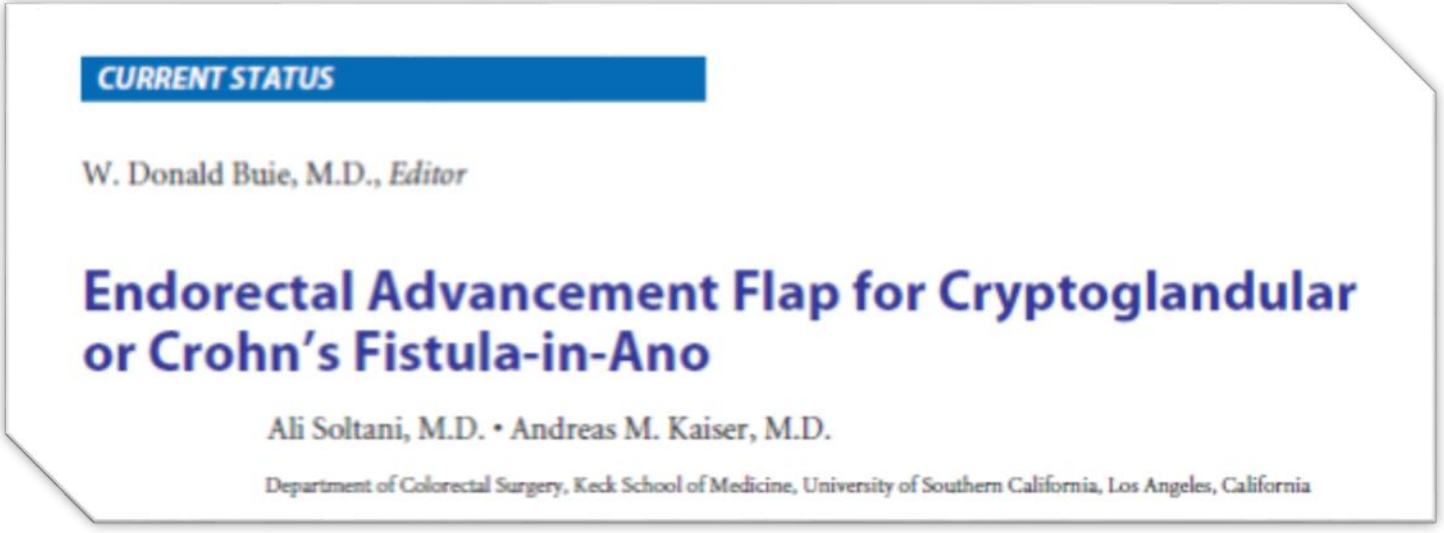


Abb. 3. Verziehen des Muskelschleimhautlappens über die ehemalige Fistelöffnung und Fixierung mit resorbierbaren Einzelknopfnähten

Partial Thickness 3 x 4 cm.

Transanal Advancement Flap Repair



CURRENT STATUS

W. Donald Buie, M.D., *Editor*

Endorectal Advancement Flap for Cryptoglandular or Crohn's Fistula-in-Ano

Ali Soltani, M.D. • Andreas M. Kaiser, M.D.

Department of Colorectal Surgery, Keck School of Medicine, University of Southern California, Los Angeles, California

CONCLUSION: Endorectal advancement flap is one tool, although not a perfect one, to treat complex anorectal fistulas of cryptoglandular or Crohn origin. Higher level evidence would be needed for comparison with other surgical techniques.

2010

TABLE 3. Outcome — success rates

Author	Breakdown etiology			Success rates (%)		
	Cryptoglandular	Crohn	Unknown	Overall	Cryptoglandular	Crohn
Oh[6]	15	X		86.7	86.7	X
Aguilar et al[7]	189	X		98.5	98.5	X
Jones et al[8]	6	6		66.7	100.0	33.3
Wedell et al[9]	27	X		96.7	96.7	X
Shemesh et al[10]	4	4		87.5	←87.5→	
Lewis and Bartolo[11]	2	6		75.0	50.0	83.3
Kodner et al[12]			36	80.0	(87.1)	(70.8)
Makowiec et al[13]	X	20		75.0	X	75.0
Lewis et al[14]	11	X		90.9	90.9	X
Ozuner et al[15]			46	69.8	(74.1)	(68.1)
Golub et al[16]	164	X		96.7	96.7	X
Joo et al[17]	X	8		73.1	X	73.1
Kreis et al[18]			6	62.5	(75.0)	(56.3)
Marchesa et al[19]	X	9		61.5	X	61.5
Miller and Finan[20]	18	X		83.3	83.3	X
Hyman[21]	6	14		75.0	83.3	71.4
Schouten et al[22]	44	X		75.0	75.0	X
Ortiz and Marzo[23]	103	X		93.0	93.0	X
Mizrahi et al[24]			53	57.0	(66.7)	(42.9)
Sonoda et al[25]			62	75.8	(77.1)	(50.0)
Zimmerman et al[26]	105	X		69.0	69.0	X
Dixon et al[27]	29	X		69.0	69.0	X
Koehler et al[28]	42	X		73.8	73.8	X
Van der Hagen et al[29]	23	7		76.7	78.3	71.4
Ellis and Clark[30]	35	X		62.9	62.9	X
Gustafsson and Graf[31]	82	X		57.0	57.0	X
Perez et al[32]	27	X		92.6	92.6	X
Van der Hagen et al[33]	29	12		36.6	24.1	66.7
Uribe et al[34]	51	5		92.9	←92.9→	
Zbar et al[35]	11	X		81.8	81.8	X
Mitalas et al[36]	87	X		66.7	66.7	X
Dubsky et al[37]	54	X		75.9	75.9	X
Ortiz et al[38]	91	X		82.4	82.4	X
van Koperen et al[39]	80	X		73.8	73.8	X
Abbas et al[40]			25	76.0	←76.0→	
Average				76.2	78.1	67.5
Weighted average				79.2	80.8	64.0

TweeSteden ziekenhuis
zorgzaam & professioneel

St. Elisabeth Ziekenhuis

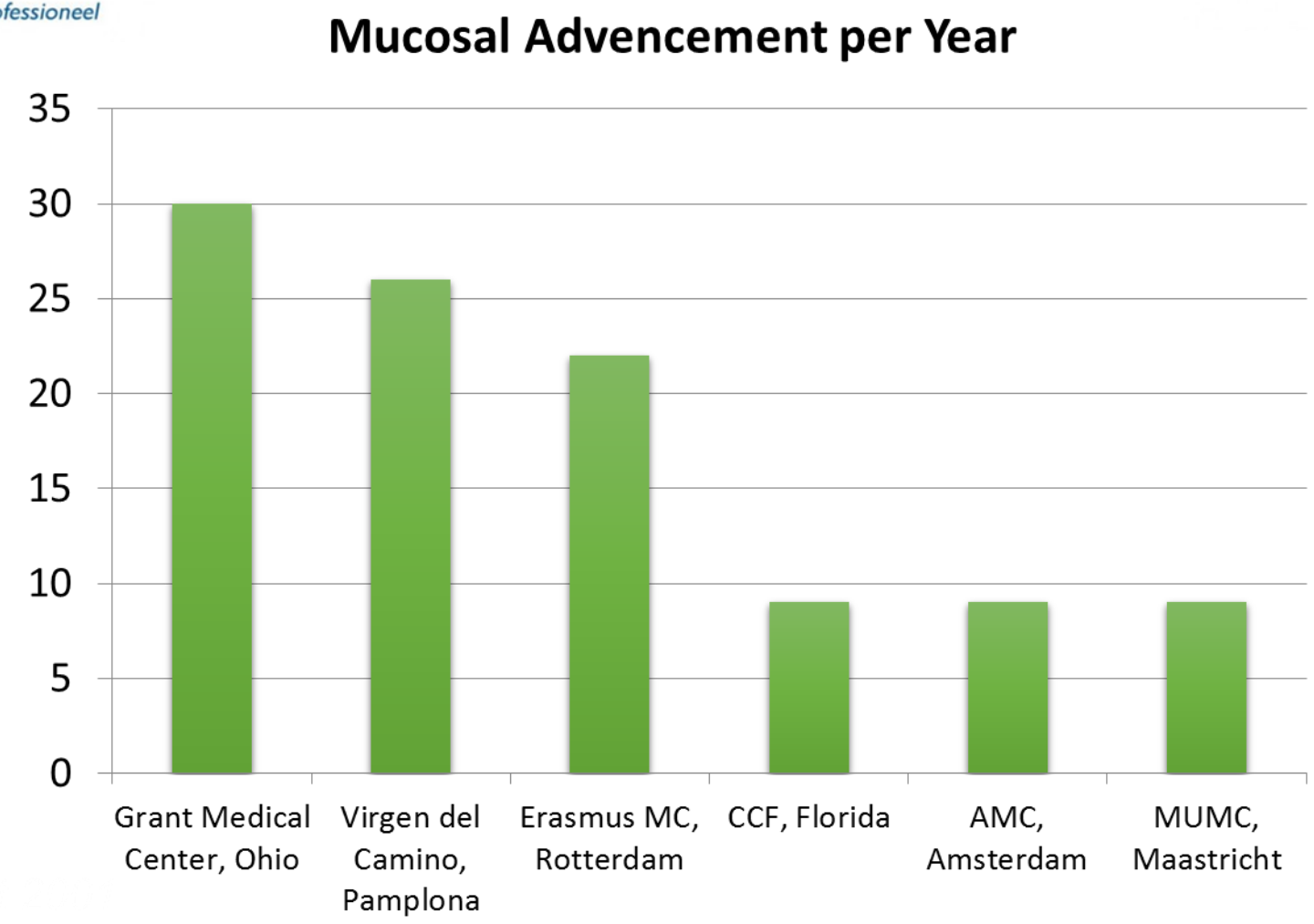
Generally Accepted Healing Rate:

2/3

Number…

Is healing rate influenced by number of operations per year?

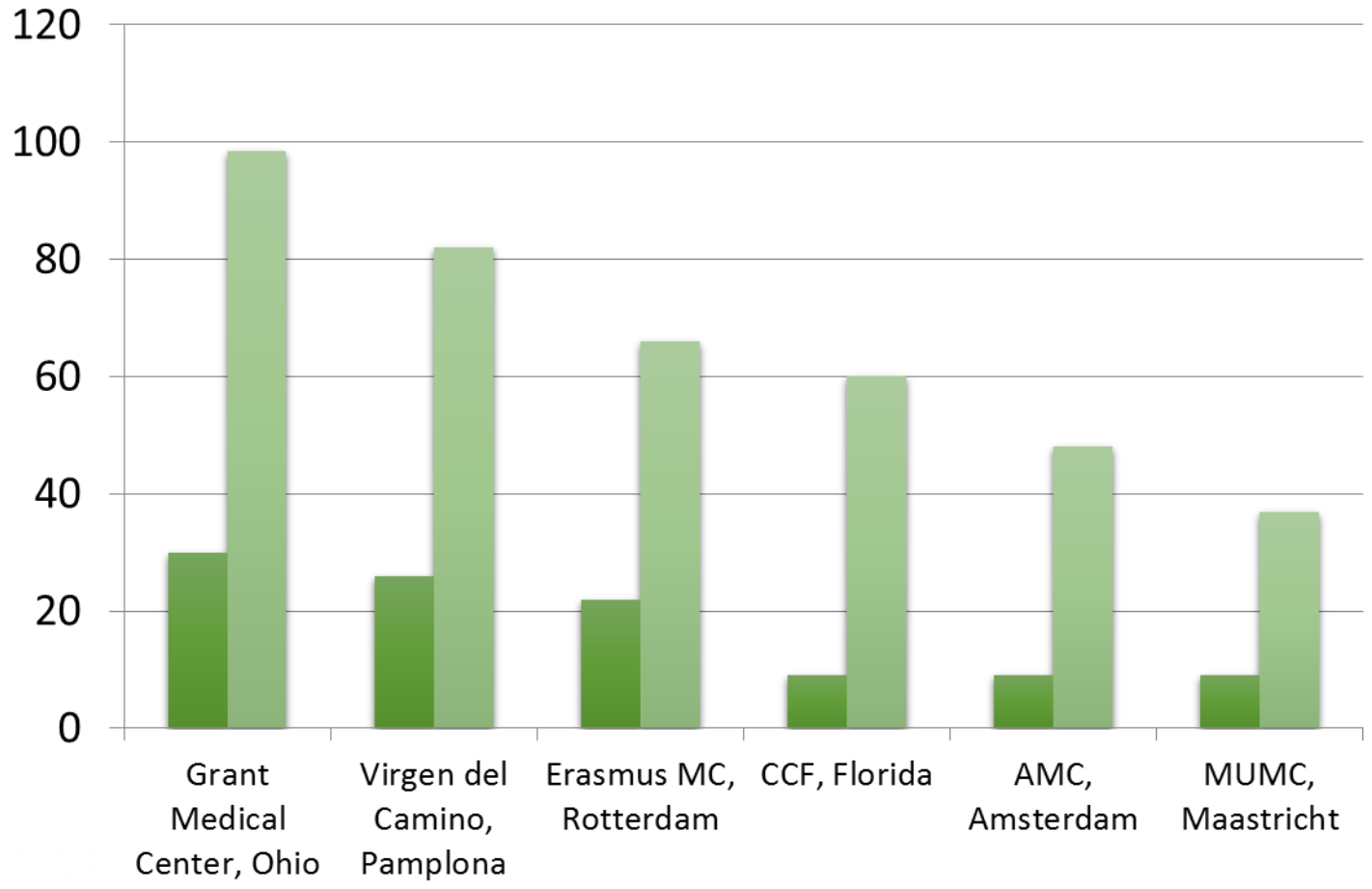
Case Load



(As estimated using published results)

Case Load

Mucosal Advancement per Year and Success

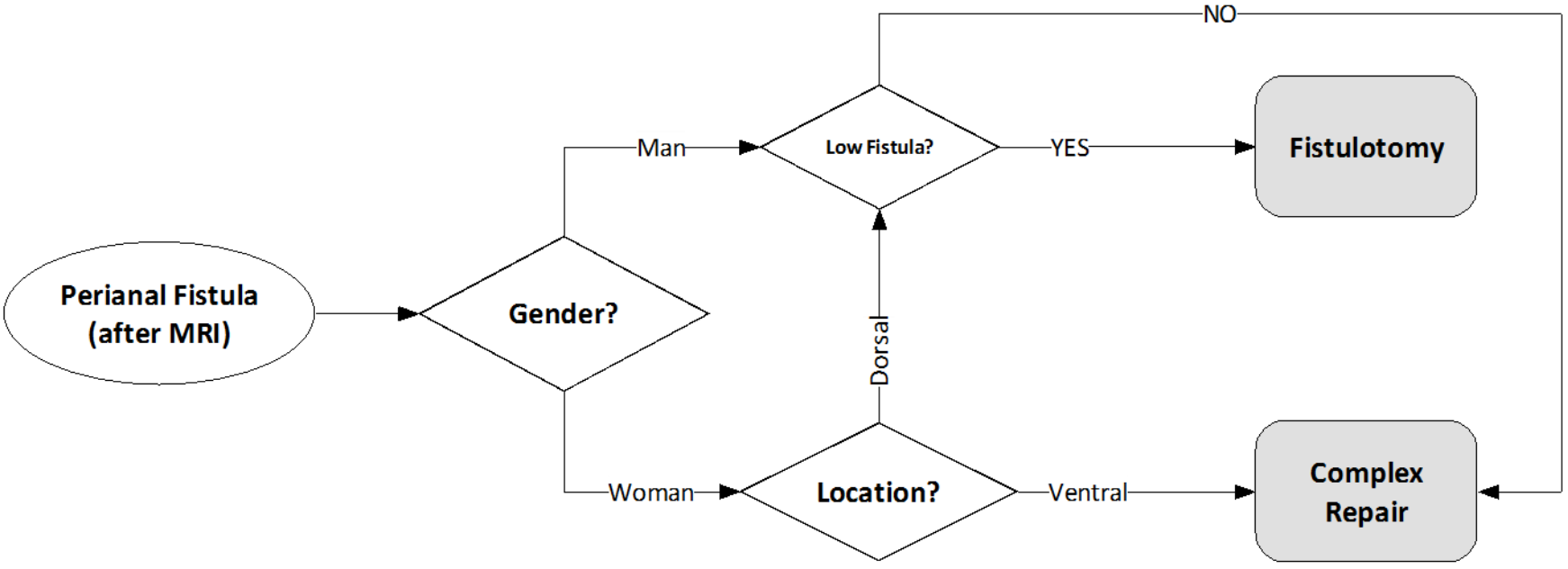


(As estimated using published results)

Estimated nr. of Complex Repairs

<u>Total nr. operations:</u>	3000
50 % intersphincteric	1500
60 % low transsphincteric	600
Fistulas eligible for complex repair	600
Nr. of Hospitals	91
Complex repairs per hospital per year	**7 (!)**

Patient Selection



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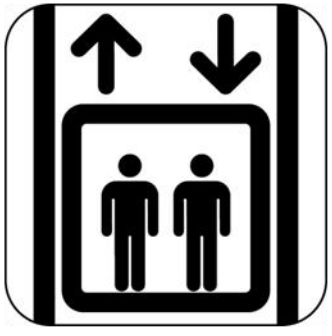
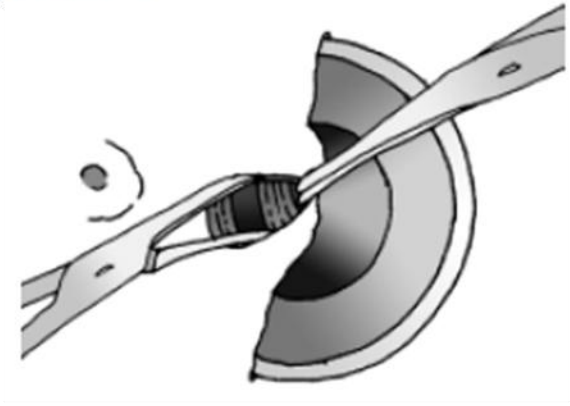
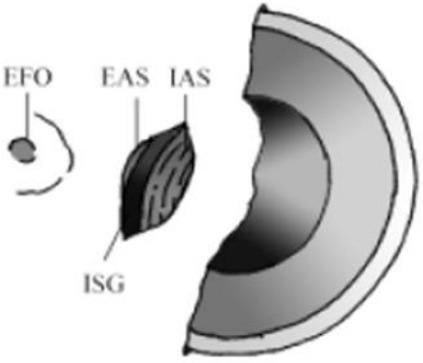
St. Elisabeth Ziekenhuis

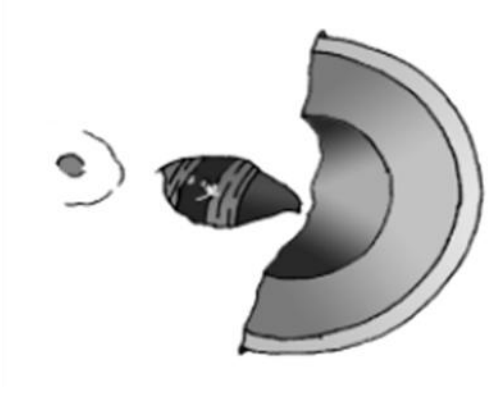
LIFT



Original Technique







L.I.F.T.

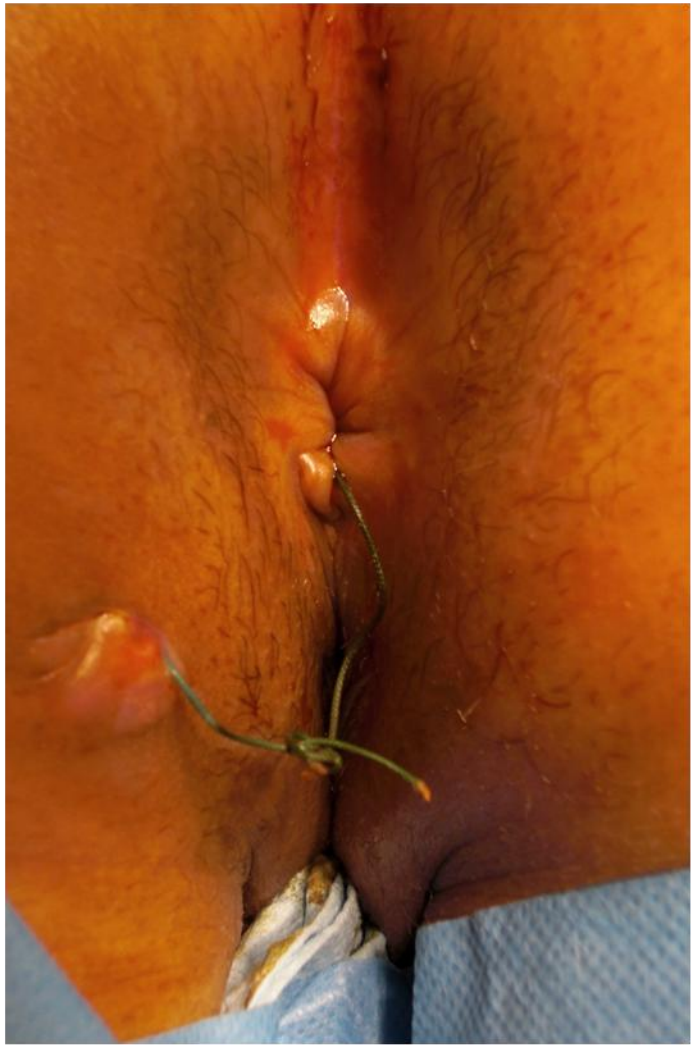


Foto: Courtesy of Dr. W.R.Schouten

L.I.F.T.

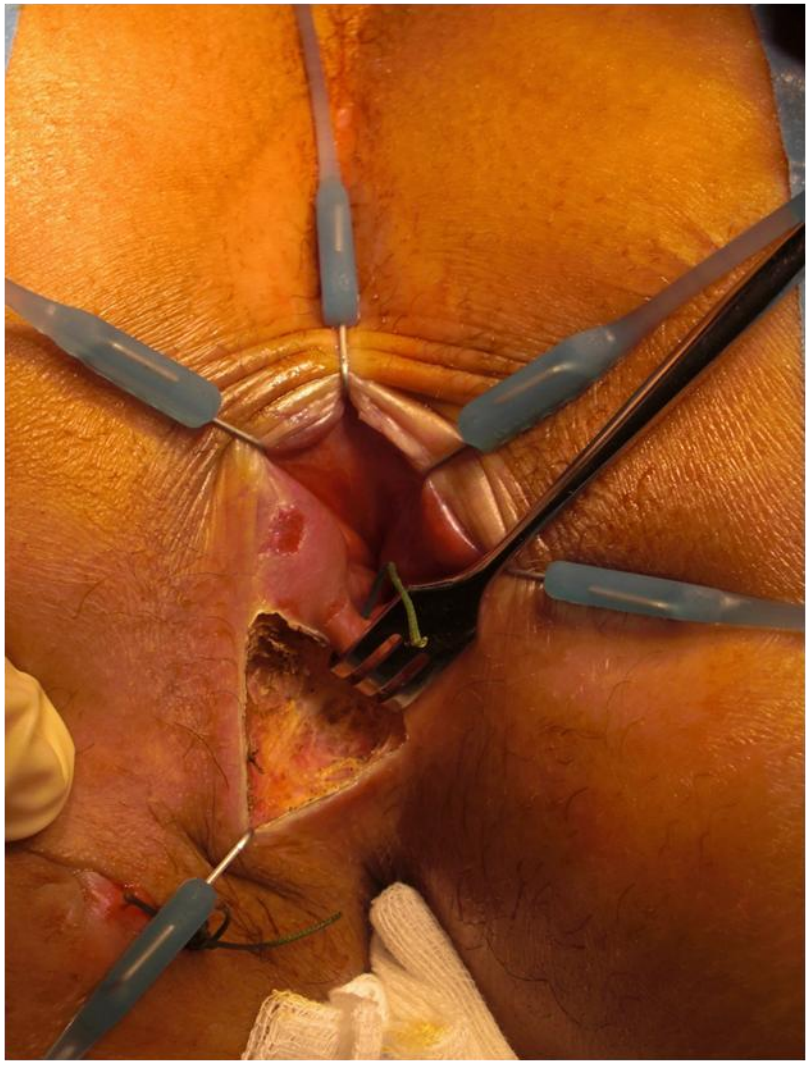


Foto: Courtesy of Dr. W.R.Schouten

L.I.F.T.

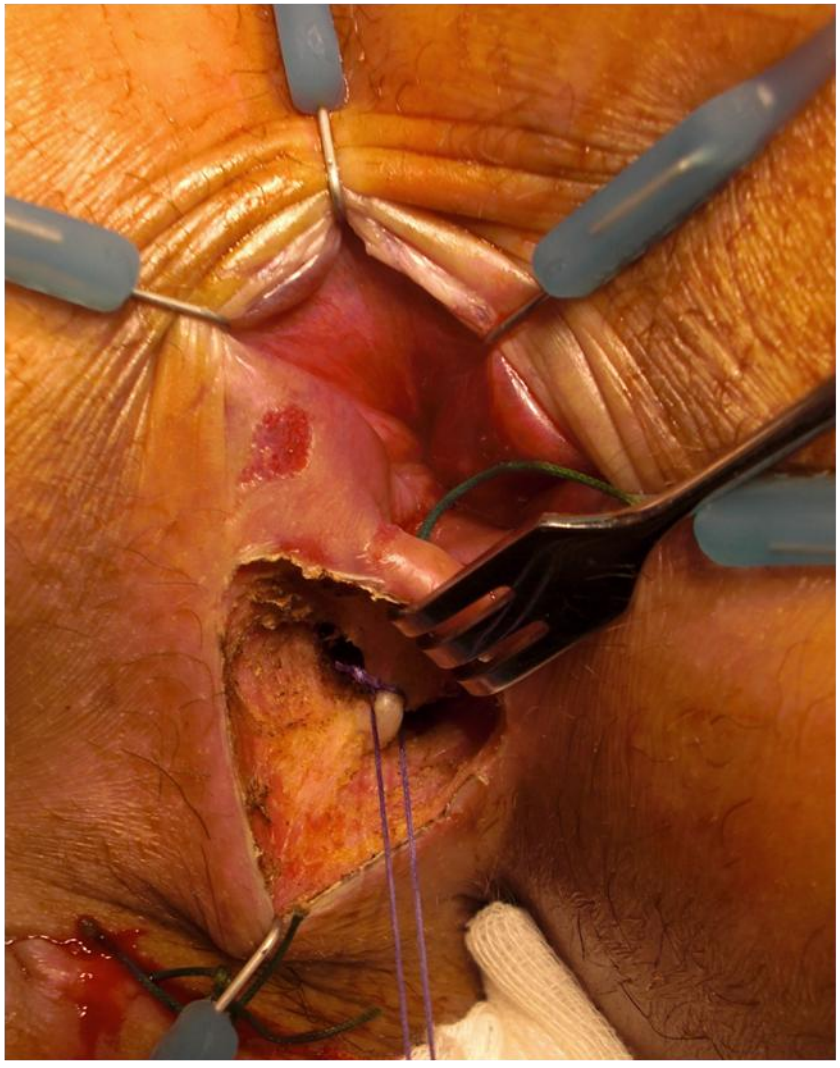


Foto: Courtesy of Dr. W.R.Schouten

Results

Author	Year	N	Success	Functional Outcome
Rojanasakul	2007	18	17 / 18 (94%)	No impact…
Shanwani	2010	45	29 / 45 (64%)	No impact…
Bleier	2010	39	20 / 35 (57%)	No impact…
Sileri	2011	18	15 / 18 (73%)	No impact…
Aboulian	2011	25	17 / 25 (68%)	?
Tan	2011	93	80 / 93 (86%)	?
Wallin	2012	93	56 / 93 (40%)	6 % soiling
Tan	2012	24	15 / 24 (63%)	?

ORIGINAL CONTRIBUTION

To LIFT or to Flap? Which Surgery to Perform Following Seton Insertion for High Anal Fistula?

Ker-Kan Tan, F.R.C.S.(Edinb.) • Rayan Alsuwaigh • Aloysius M. Tan, M.B.B.S.
Ian J. Tan, M.B.B.S. • Xuandao Liu • Dean C. Koh, F.R.C.S.(Edinb.), F.R.C.S.(Glasg.)
Charles B. Tsang, F.R.C.S.(Edinb.), F.R.C.S.(Glasg.)

Division of Colorectal Surgery, University Surgical Cluster, National University Health System, Singapore

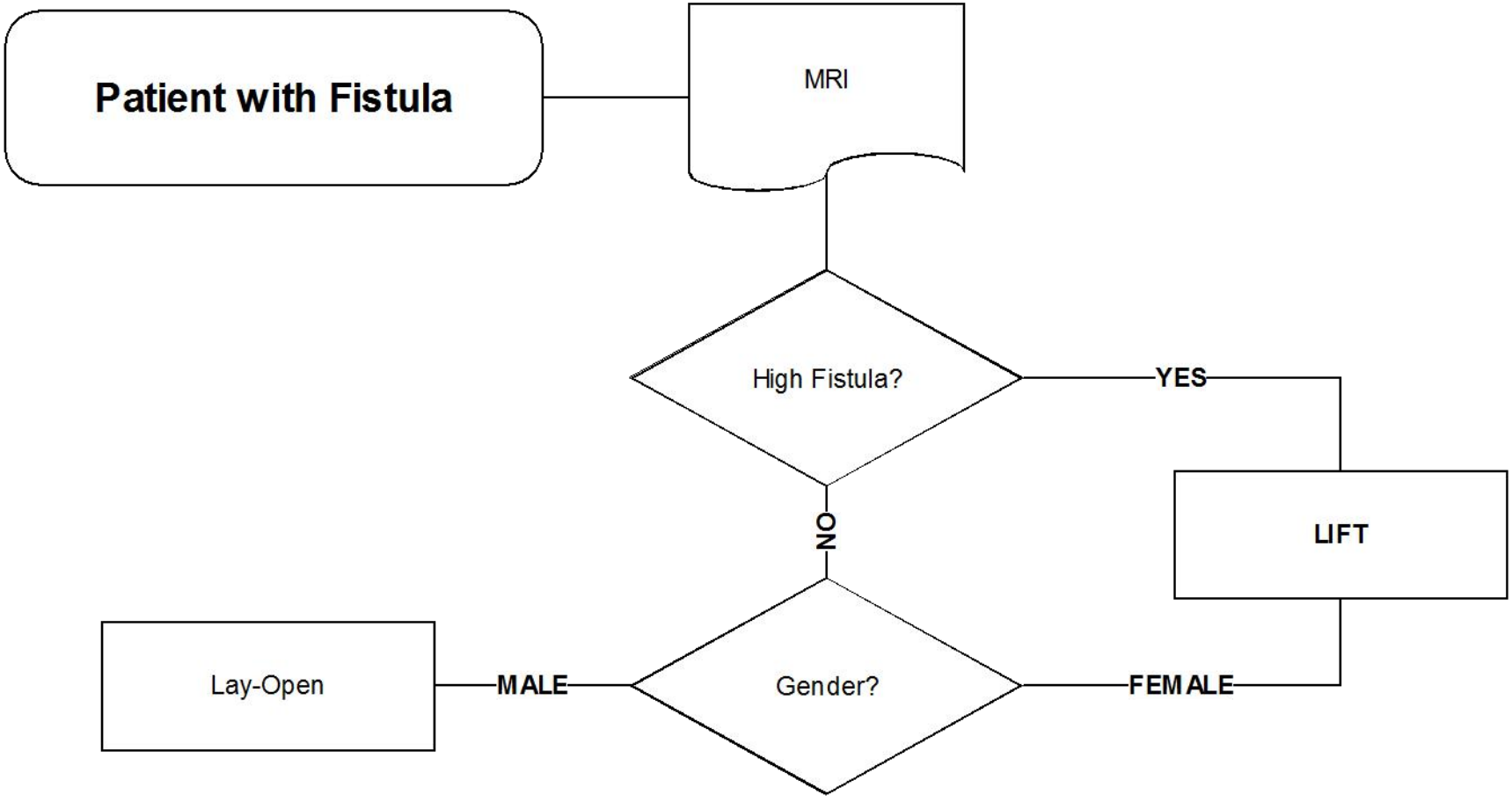
"LIFT does not seem to be superior to Flap…"

TABLE 4. Comparison of the outcomes between groups

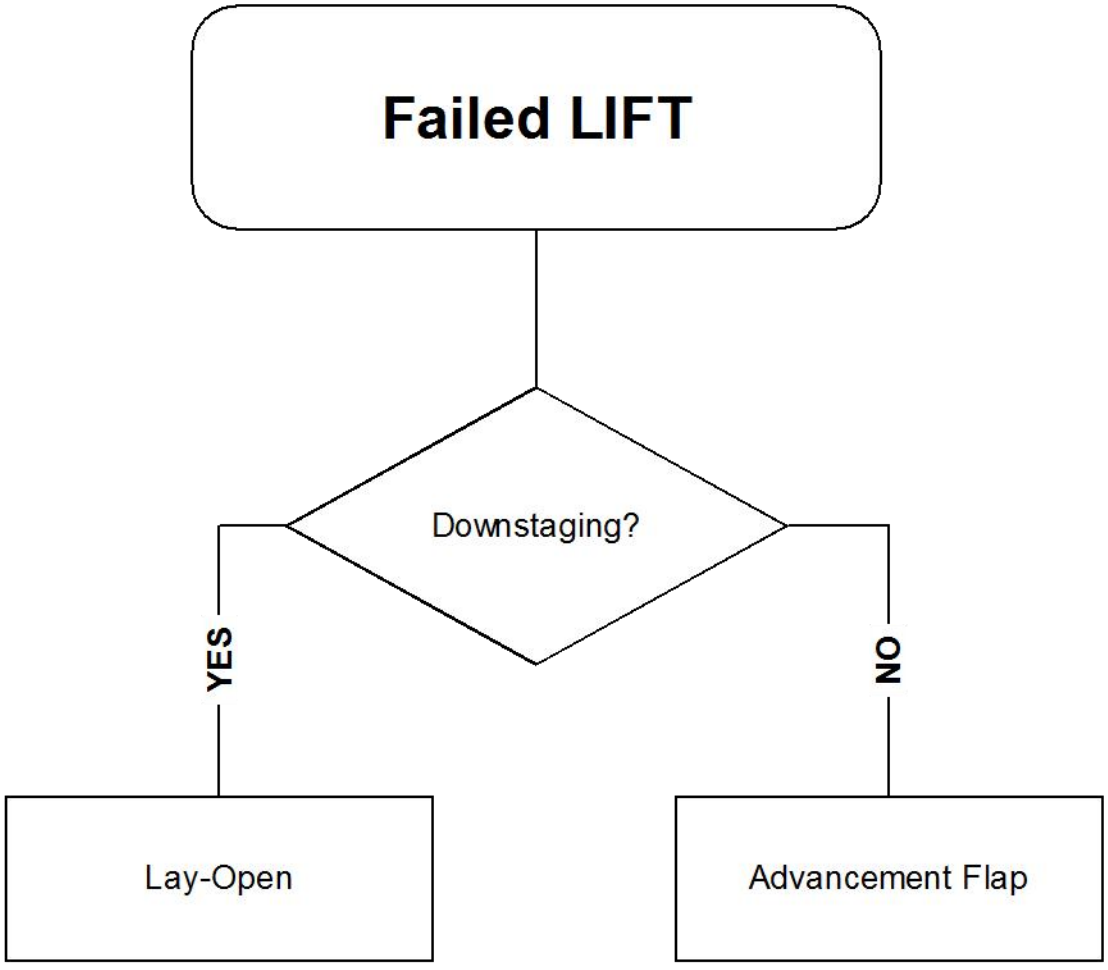
Characteristics	*ERAF group (n = 31)*	*LIFT group (n = 24)*	*p*
Median duration of follow-up, mo (range)	6 (2–26)	13 (4–67)	
Outcome of surgery			
Successful	29 (93.5)	15 (62.5)	**0.006**
Failed and required further intervention	2 (6.5)	9 (37.5)	

ERAF = endorectal advancement flap; LIFT = ligation of the intersphincteric fistula tract.

Possible place of LIFT…

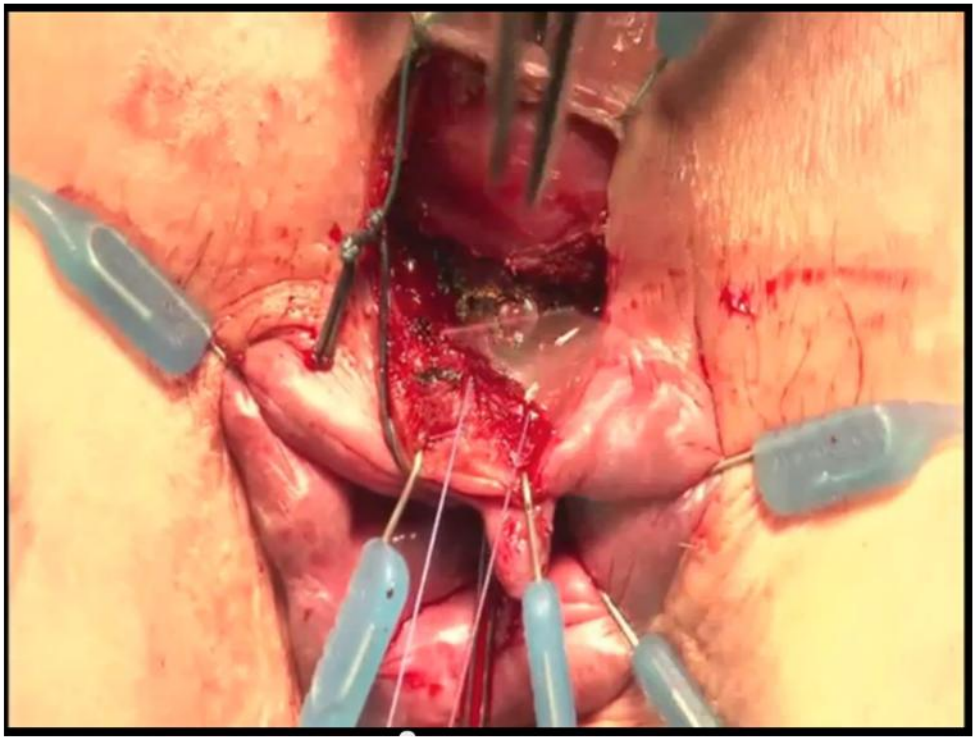


Possible place of LIFT…



In Conclusion

- Etiology of perianal fistula not proven
- Simple fistula can be cured with simple treatment
- TAFR is a proven yet challenging technique yielding good, but far from perfect results.
- Should we consider ‘centralization’?
- LIFT is a relatively easy and new technique, its exact place is as of yet unclear
- Exciting techniques for the future!
- Uniform technique and additonal (translational) investigations warranted…



http://www.youtube.com/watch?v=zZYDwVOAIa4