

# Ligation of Inter-sphincteric Fistula Tract and its Modifications

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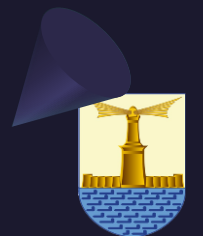
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# Disclosures

- Speaker and trainer for Medtronic
- Consultant for Touch Stone
- Speaker for Sanofi pharmaceutical



# Step by Step LIFT

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Prone-Jackknife/ lithotomy position

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An internal opening was identified by injecting methylene blue or povidine iodine from an external opening, and tract probed by metal probe

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Incision made parallel to the anal verge about 2-3 cm above the intersphincteric groove

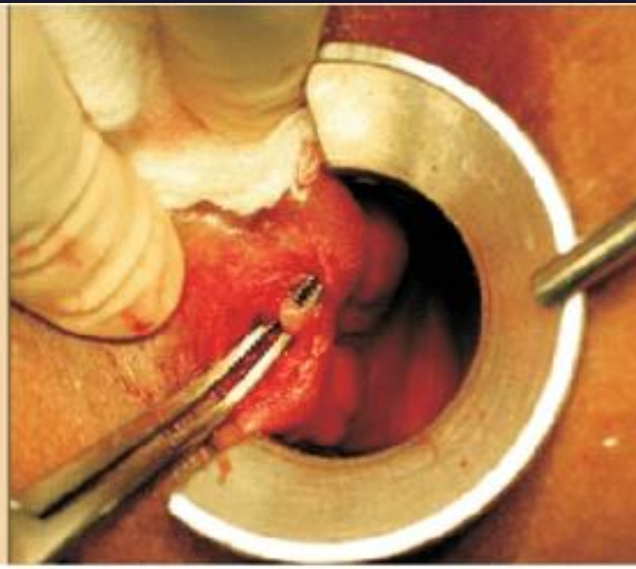
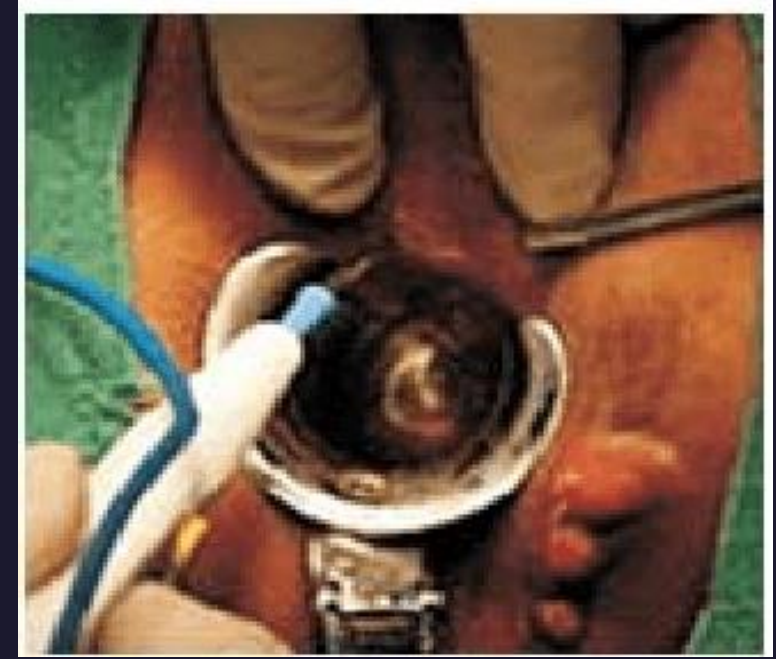
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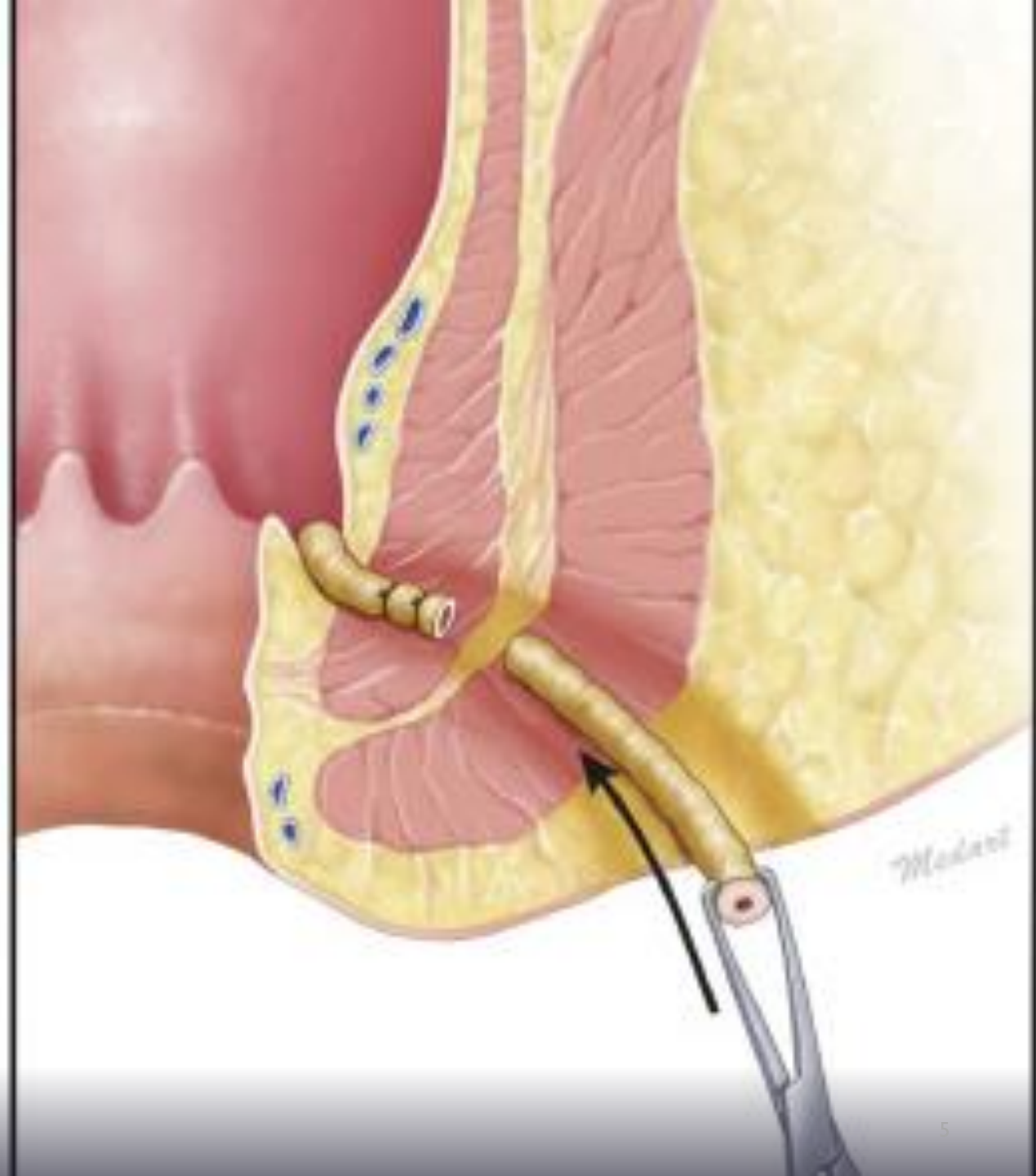
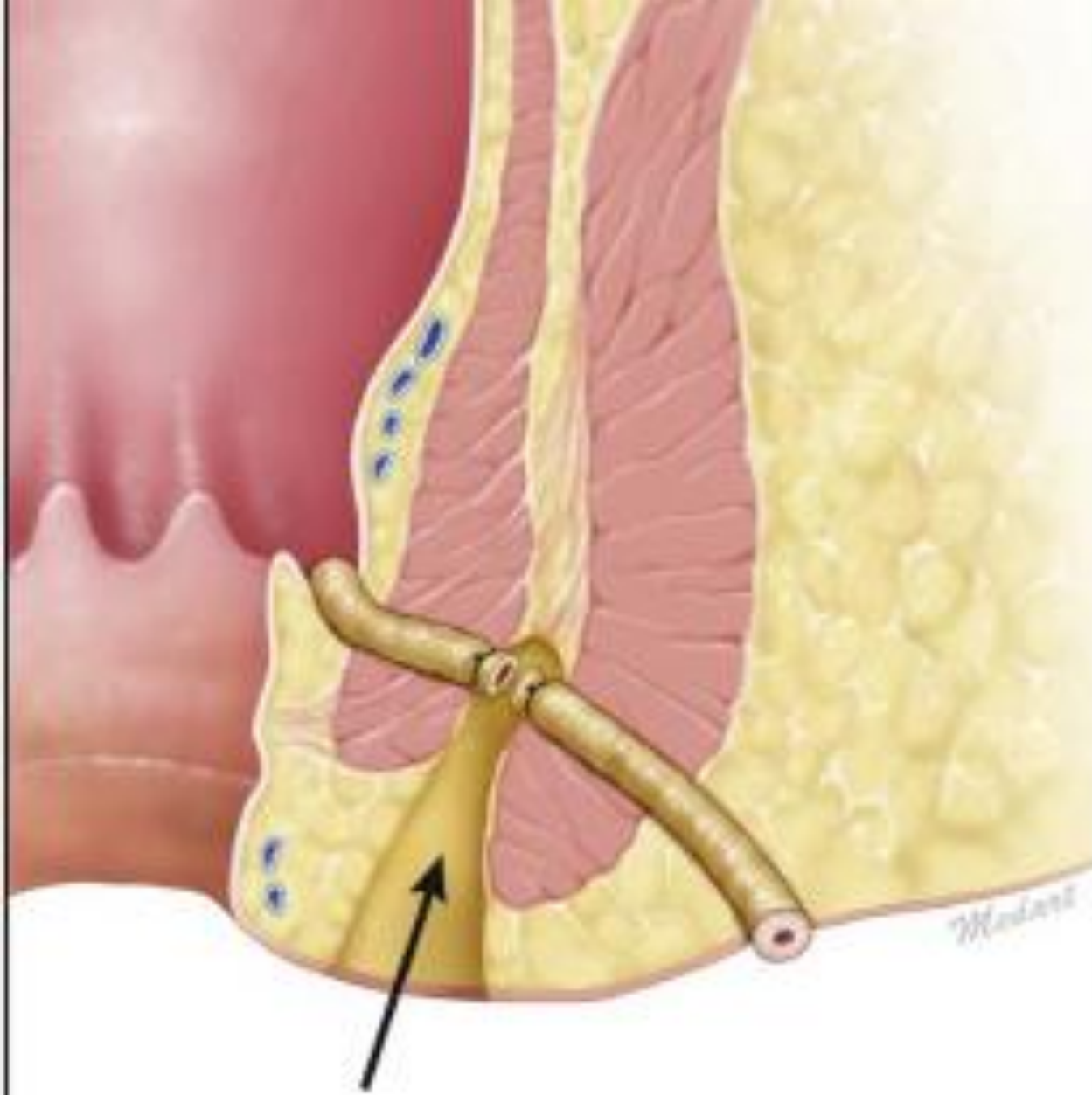
Dissection deep down into intersphincteric space with scissors and electric cautery to identify the fistula tract

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This tract was then ligated on the internal opening site by polyglactin 2/0 (Vicryl 2/0) before being transected (or ligated on both sides from start)



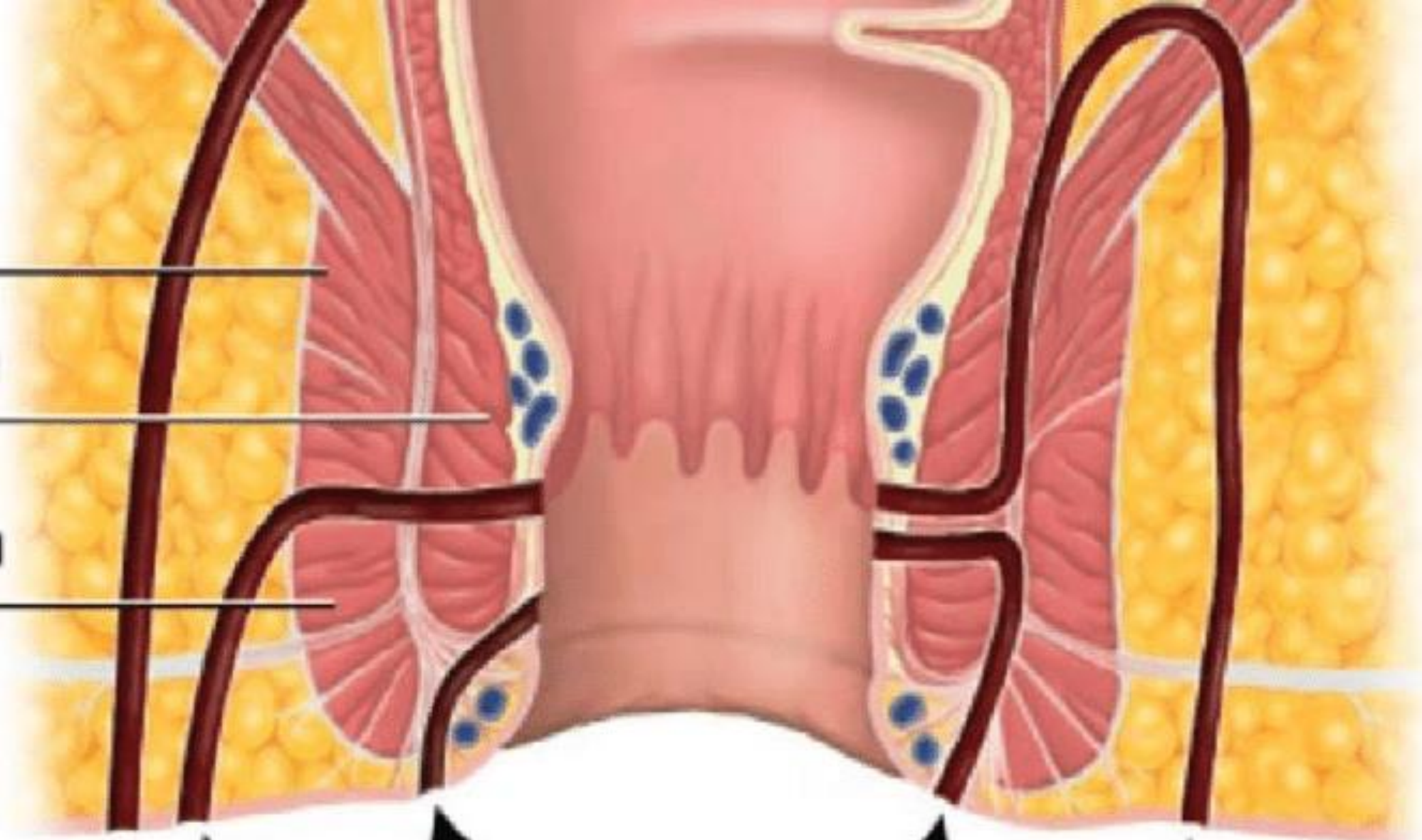




**Puborectalis muscle**

**Internal anal sphincter**

**External anal sphincter**



**Superficial fistula**

**Intersphincteric fistula**

**Suprasphincteric**

**Extrasphincteric**

**Transsphincteric**



LIFT





# Primary healing of original LIFT

Study	Sample size	Proportion (%)	95% CI
Tan et al. (2012)	24	62.5	40.594–81.201
Mushaya et al. (2012)	25	68	46.500–85.050
Wallin et al. (2012)	93	65.591	55.021–75.139
Dalbem et al. (2014)	22	77.273	54.630–92.179
Madbouly et al. (2014)	35	94.286	80.843–99.300
Total (fixed effects)	199	72.414	65.739–78.426
Total (random effects)	199	73.95	60.255–85.605

# Primary Failure of original LIFT

Study	Sample size	Proportion (%)	95% CI
Tan et al. (2012)	24	37.5	18.799–59.406
Mushaya et al. (2012)	25	0	0.000–13.719
Wallin et al. (2012)	93	34.409	24.861–44.979
Dalbem et al. (2014)	22	22.727	7.821–45.370
Madbouly et al. (2014)	35	5.714	0.700–19.157
Total (fixed effects)	199	21.983	16.500–28.299
Total (random effects)	199	17.858	4.943–36.472

# Overall Failures of original LIFT

Study	Sample size	Proportion (%)	95% CI
Tan et al. (2012)	24	0	0.000–14.247
Mushaya et al. (2012)	25	8	0.984–26.031
Wallin et al. (2012)	93	25.806	17.287–35.923
Dalbem et al. (2014)	22	0	0.000–15.437
Madbouly et al. (2014)	35	20	8.441–36.938
Total (fixed effects)	199	14.784	10.213–20.410
Total (random effects)	199	9.711	1.723–23.165

# Overall healing of original LIFT

Study	Sample size	Proportion (%)	95% CI
Tan et al. (2012)	24	62.5	40.594–81.201
Mushaya et al. (2012)	25	92	73.969–99.016
Wallin et al. (2012)	93	55.914	45.238–66.203
Dalbem et al. (2014)	22	100	84.563–100.000
Madbouly et al. (2014)	35	74.286	56.744–87.511
Total (fixed effects)	199	71.489	64.766–77.575
Total (random effects)	199	78.893	58.498–93.652

Gendia et al, j coloproctol . 2 0 1 8;3 8(4):324–336

# Types of recurrences after LIFT

Author	Time to recurrence	Failure	Recurrence	Treatment of failure
Onkelen <sup>16</sup>	NA	4 (18%)	No recurrence	4 intersphincteric by fistulectomy
Feng Ye <sup>17</sup>	NA	5 (1.2%)	No recurrence	5 intersphincteric fistula and fistulectomy
Onkelen <sup>6</sup>	NA	49% 20 pts	No recurrence	8 intersphincteric fistula by fistulectomy 4 by TARF 8 by Seton
Han <sup>4</sup>	NA	1(5%)	No recurrence	NA
Tsunoda <sup>18</sup>	NA	1 (5%)	No recurrence	NA

# Factors associated with Failure

- Factors associated with operation failure were collection, fistula tract size more than 5 millimeters, and the failure of ligating the tract in one attempt

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# Modifications

- LIFT plus
- BioLIFT
- XenoLIFT









110 patients included (50% female, median follow-up 92 months)

101 patients (92%) were treated with previous surgeries (median 2, range 0–6) and 80% had previous seton drainage

short-term follow-up, including 11% newly induced cases of FI



## Ligation of intersphincteric fistula tract (LIFT) for trans-sphincteric cryptoglandular anal fistula: long-term impact on faecal continence

Justin Y. van Oostendorp<sup>1,2,\*</sup> , Carolien Verkade<sup>3</sup> , Ingrid J. M. Han-Geurts<sup>1</sup> , Grietje J. H. van der Mijnsbrugge<sup>1</sup> , Darczka K. Wasowicz-Kemps<sup>3</sup>  and David D. E. Zimmerman<sup>3</sup> 



**Table 2 Continence status stratified by success of the LIFT procedure**

	<b>Total n = 110</b>	<b>Healed n = 31</b>	<b>Unhealed n = 79</b>	<b>P</b>
<b>Preoperative continence status</b>				0.954
Continent	92 (84)	28 (30)	64 (70)	
Incontinent	18 (16)	3 (19)	15 (81)	
Gas	3 (3)	0 (0)	3 (100)	
Mucus	11 (10)	2 (18)	9 (82)	
Liquid stool	1 (1)	0 (0)	1 (100)	
Solid stool	3 (3)	1 (33)	2 (67)	
<b>Postoperative short-/mid-term continence status (2018)</b>				0.821
Continent	89 (81)	25 (28)	64 (72)	
Incontinent	20 (18)	6 (30)	14 (70)	
Gas	4 (4)	2 (50)	2 (50)	
Mucus	11 (10)	3 (27)	8 (73)	
Liquid stool	2 (2)	0 (0)	2 (100)	
Solid stool	3 (3)	1 (33)	2 (67)	
Missing	1 (1)			
<b>Change in postoperative continence status short-/mid-term (2018)</b>				0.738
No	97 (88)	27 (28)	70 (72)	
Yes	12 (11)	4 (33)	8 (67)	
Missing	1 (1)			
<b>Long-term (2023) continence status</b>				0.075
Continent	19 (17)	4 (21)	15 (79)	
Incontinent	50 (46)	16 (32)	34 (68)	
Gas	14 (13)	6 (43)	8 (57)	
Mucus	25 (23)	7 (28)	18 (72)	
Liquid stool	8 (8)	2 (25)	6 (75)	
Solid stool	3 (3)	1 (33)	2 (67)	
Missing	41 (37)			

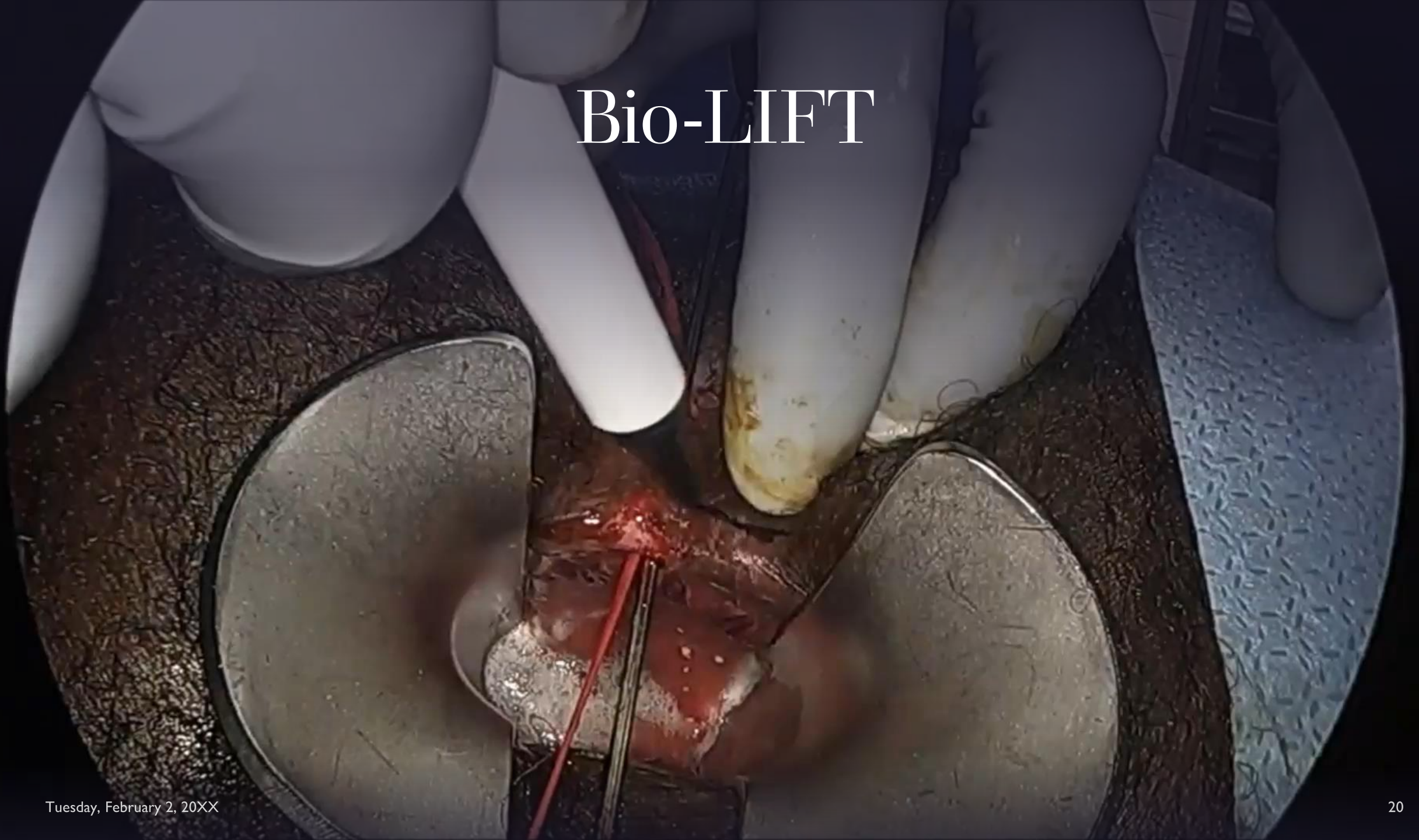
The results of this study underscore the importance of considering individual patient experiences when evaluating treatments such as LIFT. While the findings suggest potential concerns regarding the impact on continence, the suitability of LIFT as a first-line therapy remains questionable, given the less-than-perfect outcomes observed. Notably, the impact on continence appears comparable to other more invasive techniques such as TAFR. The premature adoption of LIFT as a primary option for complex fistulas within the surgical community may stem from the lack of robust long-term functional outcome data<sup>25</sup>. We urge fellow researchers to collect



# LIFT Modifications

Period of study	Year published	Type of study	Procedure (n)	Type of fistula (%)	1ry healing (%)
June 2009–March 2012	2012	P	LIFT with partial coreout fistulectomy (22)	Low transsphincteric fistula	82%
June 2012–March 2013	2014	R	LIFT with partial coreout fistulectomy (39)	High transsphincteric	87.2%
June 2009–December 2010	2012	p	LIFT with partial coreout fistulectomy and TAFR (41)	High transsphincteric fistula	51.0%
December 2010–March 2011	2012	P	LIFT-plug (21)	Transsphincteric	95.0%
March 2010–August 2012	2012	p	LIFT with partial coreout fistulectomy and Seton (20)	Low transsphincteric (60%), complex (40%).	95.0%

# Bio-LIFT



# Conclusions

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Ligation of the intersphincteric fistula tract is a feasible, minimally invasive, cheap, and relatively easy procedure, which is safe and effective at the same time

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LIFT and its modifications can be ideal for treating straightforward high anal fistulas in patient with no previous intervention

**THANK YOU!**

