

Comparison of Wound Complications in Open vs Closed Lateral Internal Sphincterotomy for Anal Fissure (Presentation)

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Comparison of Wound Complications in Open vs Closed Partial Lateral Internal Sphincterotomy for Anal Fissure

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Background

- Anal fissure: ulcer-like, longitudinal tear in the anal canal, distal to the dentate line
- Presents as sharp rectal pain and bleeding associated with bowel movements
- Trauma likely the inciting event
- Hypertonia of internal anal sphincter
- Diminished perfusion to anoderm
- Rx: Over half of fissures heal with conservative measures
- Persistent fissures require operative intervention

Purpose

- Partial lateral internal sphincterotomy (PLIS) is considered the preferred surgical treatment for chronic anal fissure in most patients
- PLIS can be performed by either the open or closed technique, with equivalent efficacy in fissure healing rates¹⁻⁴
- Few studies have specifically compared wound complication rates between the two techniques
- Aim: compare the incidence of wound complications at the sphincterotomy site between open and closed technique

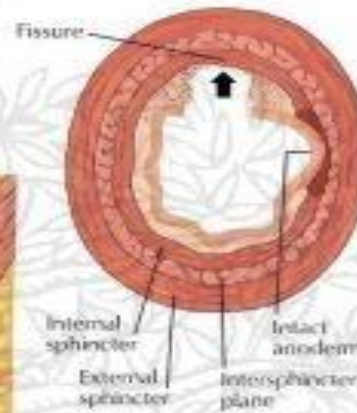
Lateral Internal Sphincterotomy

Closed technique



Blade inserted in intersphincteric groove and passed cephalad in intersphincteric plane to level of dentate line

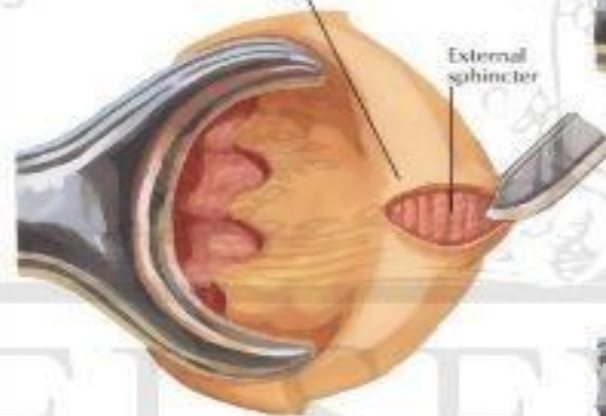
Blade then moved medially, dividing inferior 1/3 to 1/2 of internal sphincter



Internal sphincter divided; external sphincter, anoderm, and longitudinal muscle remain intact

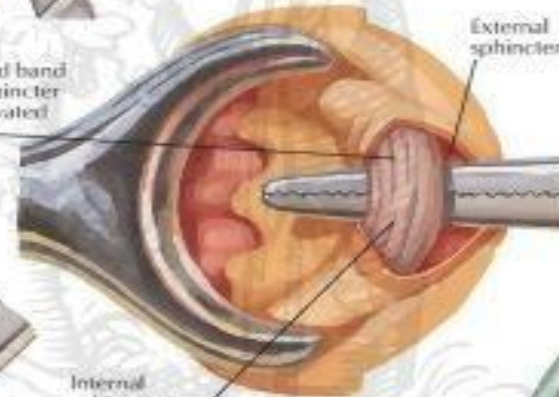
Open technique

Skin incision made external to anal verge



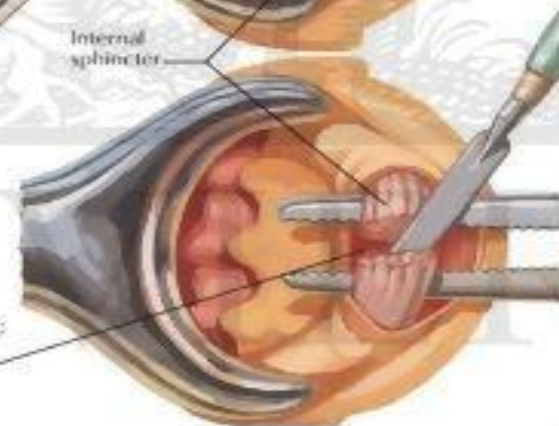
Hypertrophied band of internal sphincter fixed and elevated into incision

External sphincter



Internal sphincter

Internal sphincter divided; wound usually left open for drainage



JOHN A. CRAIG, MD

Methods

- Retrospective chart review of patients in a single specialty practice undergoing open or closed PLIS for chronic anal fissure over a 5 year period
- Total of 253 patients identified
 - 88 had open sphincterotomy
 - 165 had closed sphincterotomy
- Preoperative variables:
 - Age
 - Gender
 - Location of fissure

Demographics

Table 1:		
	Open (n = 88 pts)	Closed (n = 165 pts)
Median Age	47.9	46.3
Gender		
Male	48 (54.6%)	87 (52.7%)
Female	40 (45.4%)	78 (47.2%)
Location		
Posterior	62 (70.5%)	120 (72.7%)
Anterior	20 (22.7%)	32 (19.4%)
Other	6 (6.8%)	13 (7.9%)

Methods

- Exclusion criteria:
 - Active infection at time of surgery
 - Inflammatory bowel disease
 - Lost to follow-up
- Statistical analysis: Chi-square, Fisher's exact test, Logistic regression

Results

- Compared to closed sphincterotomy, open sphincterotomy had increased incidence of:
 - Wound infection
 - Return to operating room
 - Delayed healing
- Fissure healing rate was equivalent with both techniques

Results

Table 2:

	Open (n = 88 pts)	Closed (n = 165 pts)	p-value	Odds ratio
Infection	13 (14.8%)	4 (2.4%)	0.0002	0.141
Delayed Healing	27 (30.7%)	21 (12.6%)	0.0005	0.329
Re-operation	8 (9.1%)	3 (1.8%)	0.0183	0.185
Fissure Healed	82 (93.2%)	163 (98.8%)	0.0686	N/A

A p-value of <0.05 was considered statistically significant

Conclusions

- Open and closed sphincterotomy have equivalent fissure healing rates, as has been shown previously¹⁻⁴
- In our study, the open technique appears to have a significantly higher wound complication rate, including higher incidence of surgical site infection and delayed wound healing
- When technically feasible, closed sphincterotomy appears to be the preferred technique

Discussion

- In general, our wound complication rates are higher than previously reported⁵⁻⁶
- Retrospective study
- Effect of wound complications on incontinence

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