

# Outcomes after Operations for Anal Fistula: Results of a Prospective, Multicenter, Regional Study

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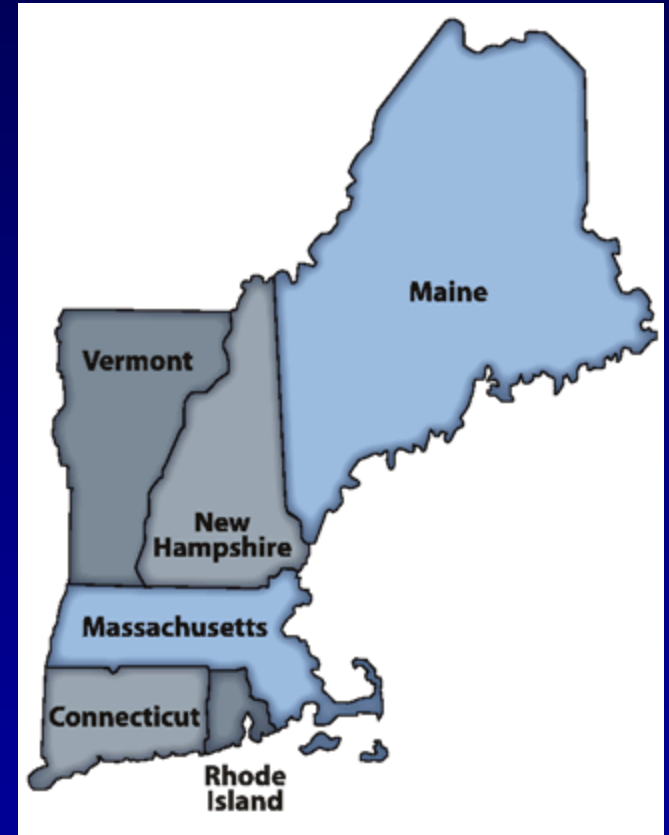
- No disclosures

# Background

- There are a variety of surgical techniques used to treat anal fistulae
- The adoption and success rates of newer techniques has not been clearly established
  - Ligation of Intersphincteric Fistula Tract (LIFT)
- What are current practices of colorectal surgeons in a local region?

# Primary Aim

- To determine the healing rate after operations for anal fistulae in New England colorectal surgery practices



# Methods

- A prospective, multicenter registry was created by the New England Society of Colon and Rectal Surgeons (NESCRS).
  - Regional group of board certified colorectal surgeons
- Colorectal surgeons were invited to collect data prospectively regarding patients operated upon for anal fistula between January 1, 2011 and August 1, 2013.

# Primary Outcome

- Healing of fistula at 3 months
  - The absence of a demonstrable fistula tract on physical exam
  - The absence of drainage of air, blood, feculent, or purulent matter from the external opening

# Secondary Outcome

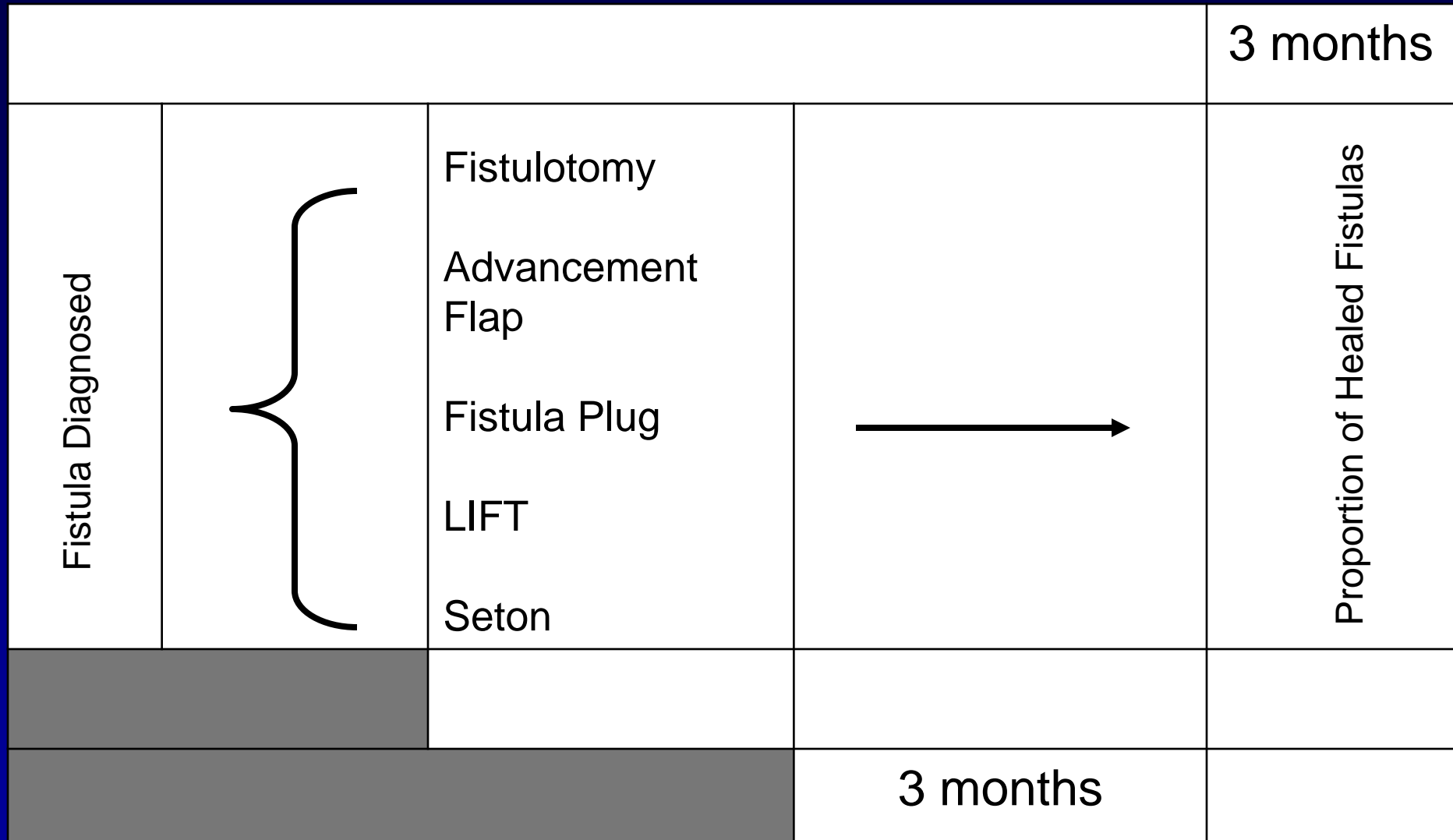
- Fecal continence scores at accrual and at 3 months
  - Cleveland Clinic Fecal Incontinence Score
- Complications

# Study Design

- Data sheets completed at entry into the study and at 3 months
- Retrospective analysis of a prospectively collected database



# Study Design



# Inclusion Criteria

- Patients with a diagnosed with a symptomatic cryptoglandular / Crohn's fistula on physical examination, magnetic resonance imaging, or endorectal ultrasound
- Age > 18 years

# Exclusion Criteria

- Infectious proctitis
- Concurrent fissure or anal ulcer

# Methods

Data	Assessor
Fistula diagnosis	Surgeon
Healing	Surgeon
Preoperative CCFI	Surgeon
Postoperative CCFI	Surgeon

# Methods

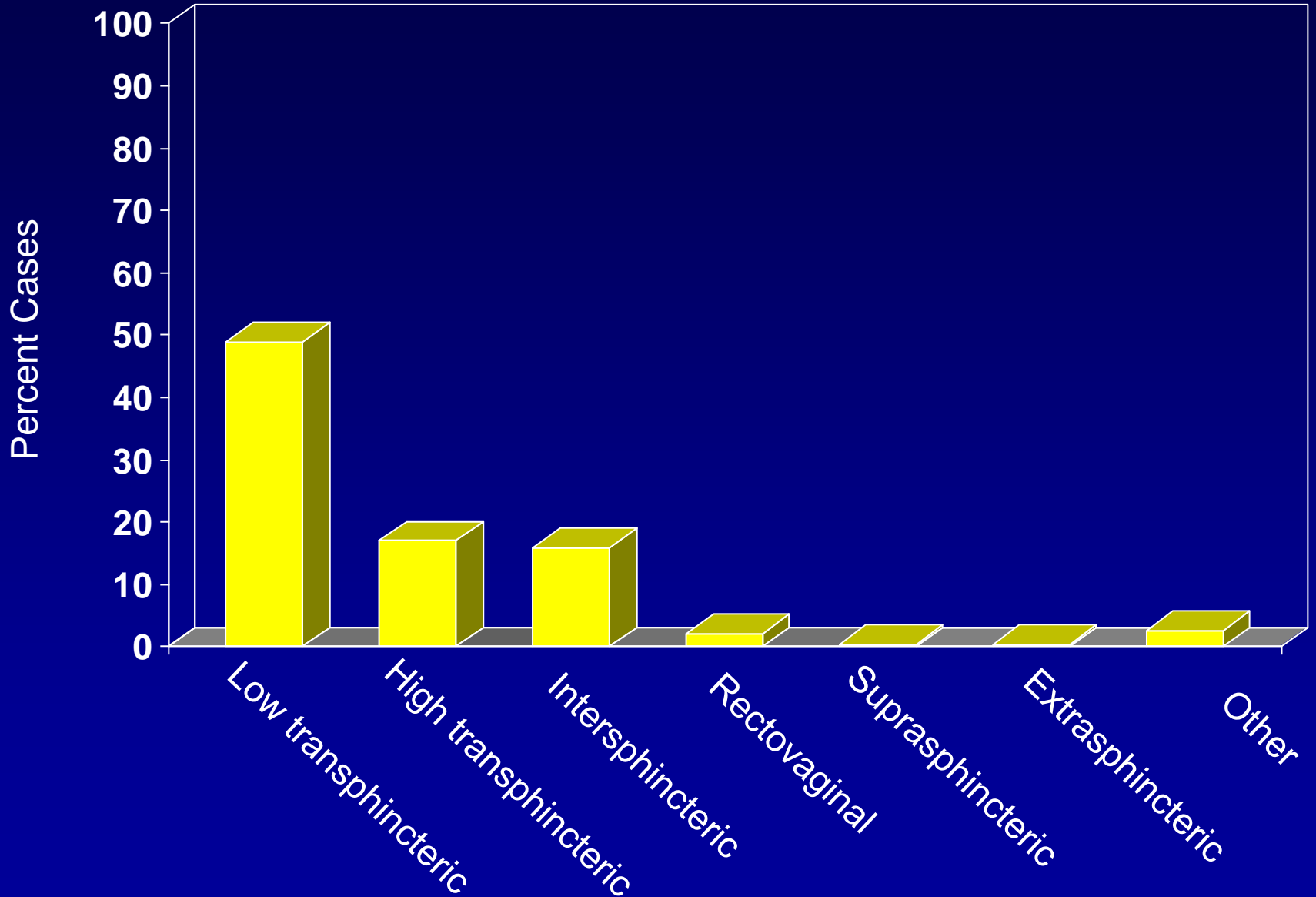
- Only complete forms with 3 month follow up were accepted
- Fisher exact and Chi square test for significance where appropriate
- Significance level  $p < .05$

# Results

# Accrual

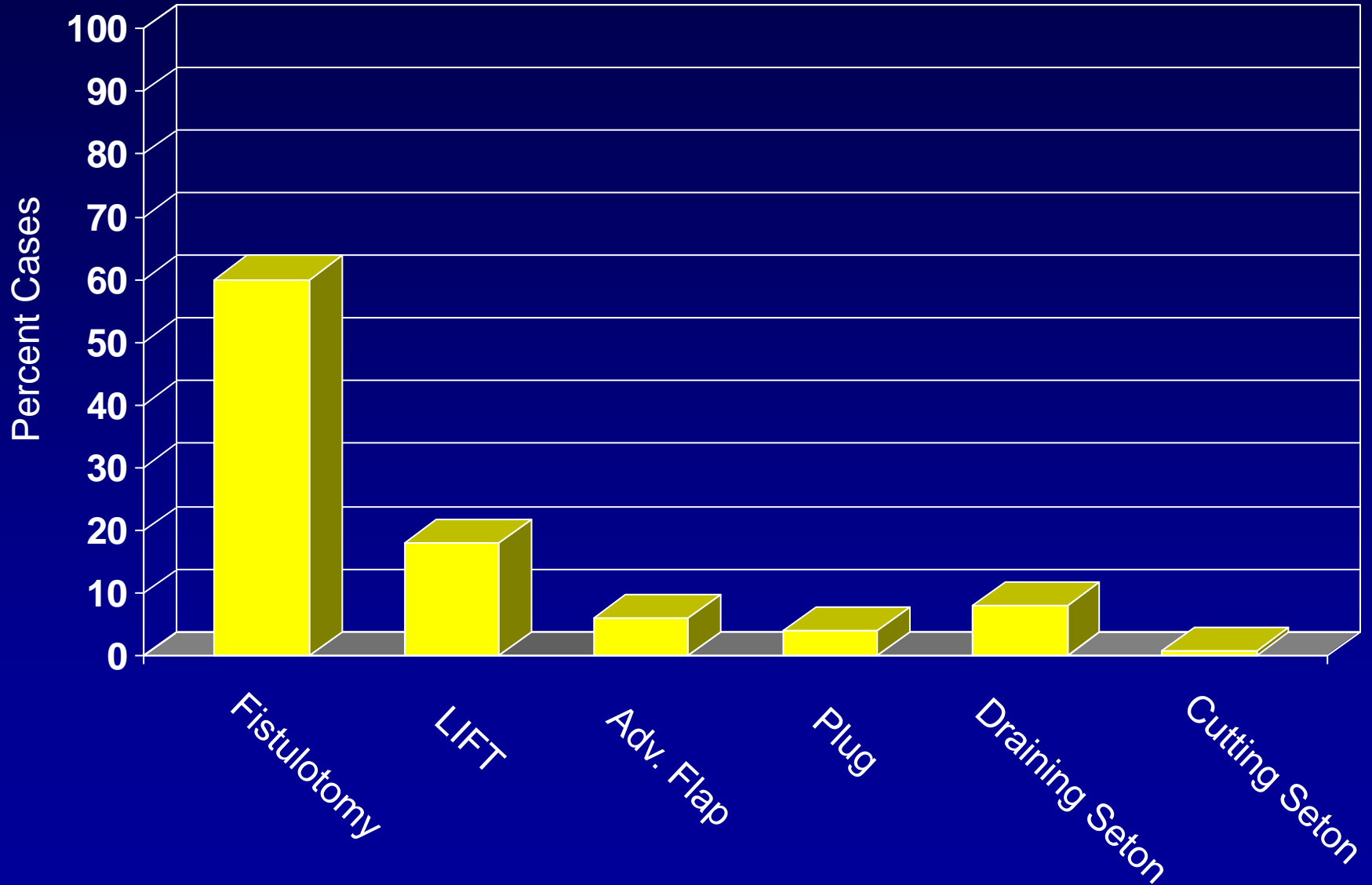
- 16 surgeons at 4 institutions
- 240 fistulas

# Distribution of Fistula Types





# Distribution of Procedures



# Preop - Cohort Demographics

	Number Patients (%)
Male	158 (66%)
Recurrent Fistula	133 (45 %)
Multiple Fistula Tracts	45 (19 %)
Crohn's Disease	29 (12 %)
Previous Surgery	110 (46%)
Active Smoker	24 (10 %)
Mean CCFI	4.6 $\pm$ 4.5

# Healing Rate by Procedure

	Number Procedures	Number Patients Healed (%)	95% CI
Fistulotomy	146	135 (94)	89 - 97%
LIFT	43	<b>34</b> (79)	65 - 88%
Draining Seton	20	0 (0)	0 – 15%
Cutting Seton	2	2 (100)	34 – 100%
Advancement Flap	15	9 (60)	33 - 77%
Plug	10	2 (20)	5 - 50%
Other	4	0 (0)	0 – 48%

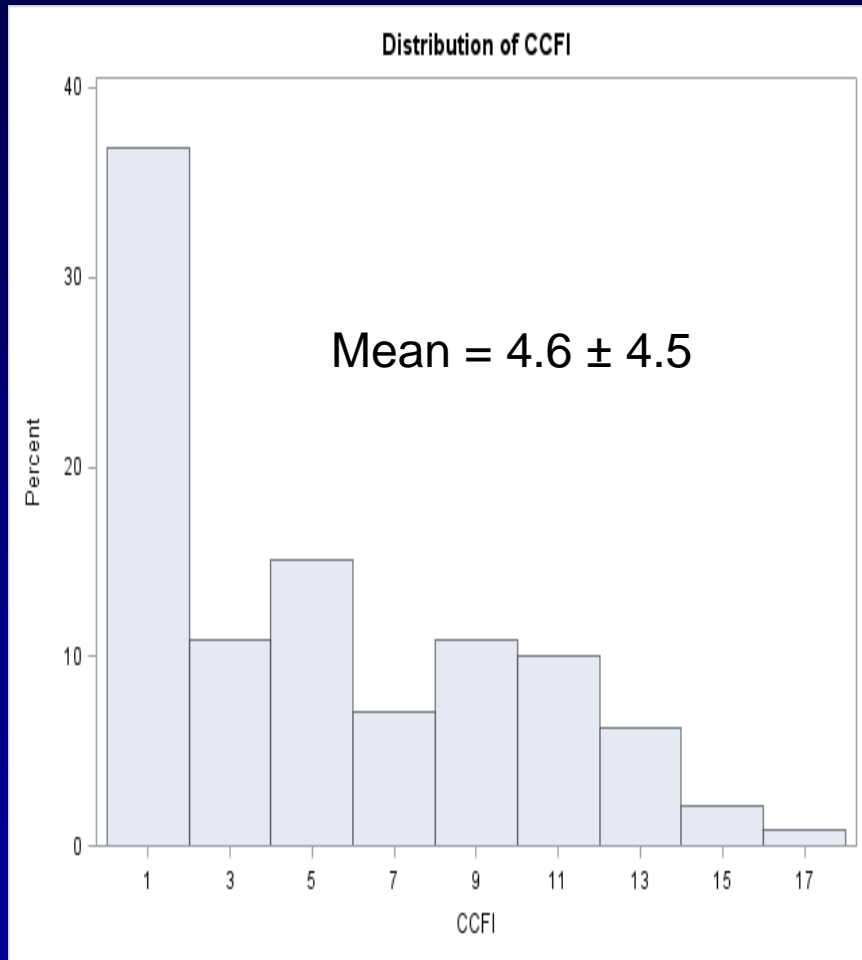
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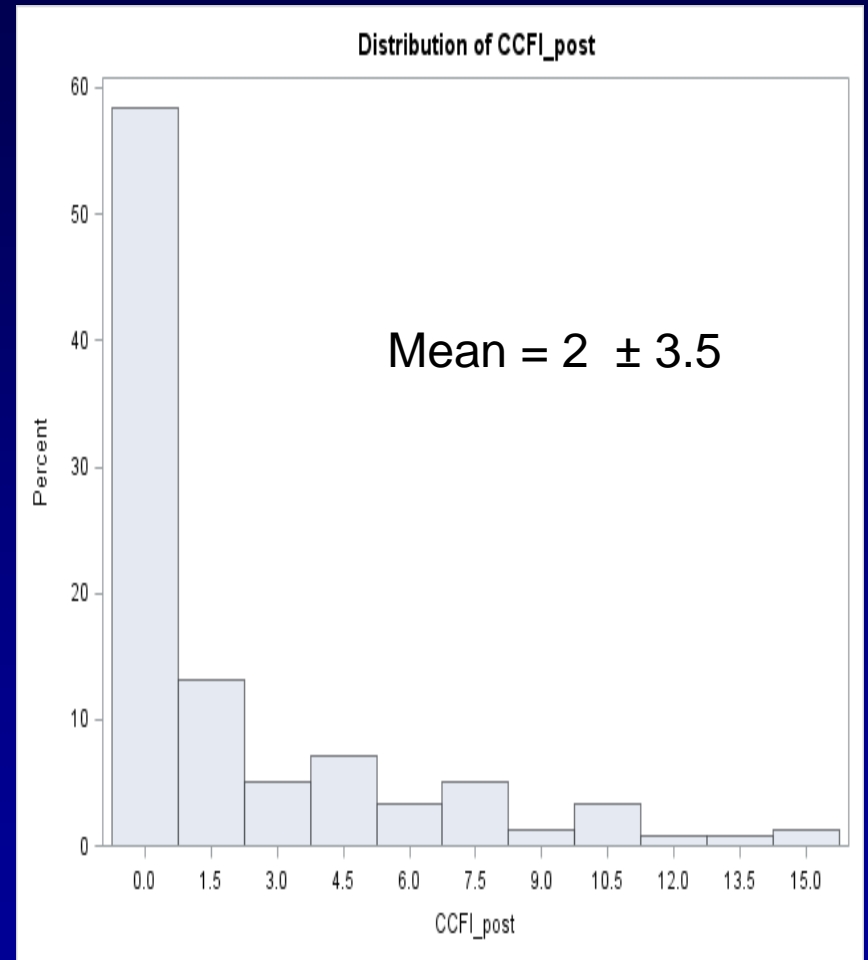
# Complications

	Number Patients (%)
Urinary Tract Infection	1 (.42%)
Postoperative bleeding	1 (.42 %)
Return to OR	3 (1.3%)
Other	4 (1.7%)

# Pre and Post-Op CCFI



Preoperative CCFI



Postoperative CCFI

# Change in CCFI

	Mean Preop CCFI	Mean Postop CCFI	Mean Change
Fistulotomy	3.6 ± 4	1.4 ± 2.5	2.2 ± 3.3
LIFT	5 ± 4.9	1.5 ± 3	3.5 ± 4.4
Advancement Flap	8.5 ± 4.5	4.5 ± 5.2	4 ± 4.9
Plug	8.1 ± 4.3	4.9 ± 4	3.2 ± 5
Draining Seton	6.3 ± 5	5.5 ± 5.6	.8 ± 2.1
Cutting Seton	9 ± 4.3	1.5 ± 2.1	7.5 ± 2.1

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Cutting Seton	9 ± 4.3	1.5 ± 2.1	7.5 ± 2.1



LIFT

# LIFT Healing Rate by Site (n=43)

Site	Number of Procedures	Number of Healed Patients (%)
1	21	20 (95%)
2	17	14 (83%)
3	3	0 (0%)
4	2	0 (0%)

p value for this table < .0001

# LIFT Healing Rate by Site

Site	Number of Procedures	Number of Healed Patients (%)
1	21	20 (95%)
2	17	14 (83%)
3	3	0 (0%)
4	2	0 (0%)

p value for this table < .0001

# LIFT Healing Rate by Seton

	Healed	Not Healed	% Healed	95% CI
Seton	22	8	73	55-89%
No Seton	12	1	92	67-99%

p value for this table < .16

# LIFT Healing Rate by Fistula Classification

	Healed	Not Healed	Healing Rate	95% CI
Rectovaginal	0	1	0%	0 – 95%
Horseshoe	4	2	66%	10 – 70%
High transphincteric	15	4	79%	57 – 91%
Low transphincteric	14	3	82%	59 – 94%

# LIFT Healing Rate by Fistula Classification

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Rectovaginal	0	1	0%	0 – 95%
Horseshoe	4	2	66%	10 – 70%
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Low transphincteric	14	3	82%	59 – 94%

# Limitations

- Primary/Secondary outcomes assessed by treating surgeon
- Reporting bias
  - Surgeons volunteered to submit data
- Selection bias
  - No standard algorithm for managing individual fistula classifications

# Strengths

- ? Real world assessment of fistula outcomes in a defined geographic region
  - By colorectal surgeons
- Low cost evaluation of regional practices



# Conclusions

- Wide variety of techniques are used to treat fistulas in New England
- Fistulotomy continues to enjoy excellent outcomes
- LIFT appears to have gained some adoption
  - reasonable short-term results at higher volume centers
- A regional society can cooperate to provide a real time audit of surgical practice

# Acknowledgements

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