Fistula in Ano
Seton or Close?

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Fistula in Ano

• Incidence
  – 12/100,000 males
  – 8/100,000 females

• 3rd to 5th decades of life

• Hippocrates 400BC

• Fistulotomy with cutting seton from horse-hair wrapped in lint threads
Aetiology

- Cryptoglandular – 90–95%
- Crohn’s disease – 1.5%
- Other – 3.5%
  - Malignant
  - Obstetric
  - Radiation
Classification

30% - Transsphincteric Fistula

45% - Intersphincteric Fistula

5% - Extrasphincteric Fistula

20% - Suprasphincteric Fistula
Treatment Aims

• Eradicate disease

• Preservation of continence

• Improve QoL
Treatment Options

• **Low Fistula**
  – <1/3 anal sphincter involvement
  – Low risk of incontinence
  – Fistulotomy usually effective

• **High Fistula**
  – > 1/3 anal sphincter involvement
  – High risk of incontinence
  – Sphincter preserving techniques
ACPGBI FIAT Trial

EUA:
transspincteric fistula ≥ 1/3 of sphincter complex
Insertion of draining seton

MRI fistulography

RANDOMISE

Fistula Plug Insertion

Surgeon’s Preference

Advancement Flap
Cutting Seton
Fistulotomy
LIFT

Primary end-points
• Faecal incontinence QoL
• Generic QoL

Secondary end-points
• Healing – 12 months
• Complications
• Faecal incontinence
• Re-interventions
• Health resource utilisation
• Cost effectiveness
Cutting/Loose Seton

- Lay open external tract
- Draining seton replaced with cutting seton
- 1/0 Prolene suture
- Tied around sphincter complex
- Simultaneous slow cutting and repair of sphincter
- May require re-tightening
• 46 consecutive cases
• Crytoglandular
  – Intersphincteric 89%
  – Transsphincteric 4%
  – Suprasphincteric 8%
• Selective use of preop MRI
• Median time seton in situ 7m (1.5 – 24 m)
• Healing rate 86%
• Recurrence rate 19%; median follow-up 42m
• No data on incontinence
The role of loose seton in the management of anal fistula: a multicenter study of 200 patients

M. E. Kelly · H. M. Heneghan · F. D. McDermott · G. J. Nason · C. Freeman · S. T. Martin · D. C. Winter

• Multicentre, retrospective
• 200 patients, mixed aetiology
  – Intersphincteric 42.5%
  – Transsphincteric 35.5%
• Loose seton with Ethibond +/- limited fistulotomty
• Median setons changes = 3 (1 – 8)
• ?Time to healing? Length of follow-up
• 100% fistula eradication
• Recurrence rate 6%
• No incontinence – not quantified
Fistula Plug
A Systematic Review of the Anal Fistula Plug for Patients With Crohn’s and Non-Crohn’s Related Fistula-in-Ano

J. M. O’Riordan, M.D. · I. Datta, M.D. · C. Johnston, M.Sc. · N. N. Baxter, Ph.D.

- 2 abstracts, 18 articles
- 530 patients (488 Non-Crohn’s; 42 Crohn’s)
- Plug extrusion 8.7%
- Variation in fistula closure rate: 20% - 86%
- Pooled fistula closure rate
  - Non-Crohn’s: 54% (95%CI 0.50,0.59)
  - Crohn’s: 55% (95%CI 0.39,0.70)
- No reported significant incontinence
An outcome and cost analysis of anal fistula plug insertion vs endorectal advancement flap for complex anal fistulae


Colorectal Disease © 2014 17, 619–626

- Prospective database
- Selective MRI
- Direct hospital costs

- AFP n=31
  - 39% recurrence
  - LOS 1.23 days

- ERAF n=40
  - 43% recurrence
  - LOS 2.0 days
LIFT Procedure

Ligation of Intersphincteric Fistula Tract

- Transsphincteric fistula
- Draining seton – 6 weeks
- Ligation & division of tract
- Drainage external tract
• Retrospective review
• No fistula classification
• 38 patients; median 26m follow-up
• Primary healing rate 61%
• 80% failed within 12m
  – Long tracts
• No reported incontinence
Advancement Flaps

Endorectal

- Fistula tract probed
- Flap raised
  - Mucosa + Int. Sphincter
- Internal opening excised/closed
- Flap advanced & sutured
• RCT – transssphincteric fistulas
• LIFT (n=35) or Mucosal Adv Flap (n=35)
• More pain at 1wk with MAF
• LIFT
  – Fistula closure = 74.3% (at 1 yr)
• MAF
  – Fistula closure 65.7% (at 1 yr)
• No sign. diffn. in Wexner score
• No sign. diffn. in QoL
<table>
<thead>
<tr>
<th>Procedure</th>
<th>PROS</th>
<th>CONS</th>
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<tbody>
<tr>
<td>Seton</td>
<td>Simple</td>
<td>Repeat EUA</td>
</tr>
<tr>
<td></td>
<td>Cheap</td>
<td>Recurrence 0 – 8%</td>
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<tr>
<td></td>
<td></td>
<td>Incontinence</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• minor 20 – 60%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• major 2 – 26%</td>
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<tr>
<td>Fistulotomy</td>
<td>Simple</td>
<td>Recurrence 2 – 9%</td>
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<tr>
<td></td>
<td>Cheap</td>
<td>Incontinence 50%</td>
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<tr>
<td>Advancement Flap</td>
<td>Can be difficult</td>
<td>Recurrence 25 – 50%</td>
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<tr>
<td></td>
<td>?Preserves sphincter</td>
<td>Incontinence 30 – 35%</td>
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<tr>
<td>Fistula Plug</td>
<td>Simple</td>
<td>Plug expensive ~£500</td>
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<tr>
<td></td>
<td>Preserves sphincter</td>
<td>Recurrence 40 - 50%</td>
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<tr>
<td></td>
<td></td>
<td>Continence preserved</td>
</tr>
<tr>
<td>LIFT</td>
<td>Simple</td>
<td>Recurrence 30 - 40%</td>
</tr>
<tr>
<td></td>
<td>Preserves sphincter</td>
<td>Continence preserved</td>
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Fistulectomy + Sphincter Reconstruction
# Fistulectomy and Primary Reconstruction

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>n</th>
<th>Type</th>
<th>Dehiscence (%)</th>
<th>Recurr. (%)</th>
<th>Cont-Disorder</th>
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<tbody>
<tr>
<td>Parakash (Ind)</td>
<td>85</td>
<td>120</td>
<td>distal</td>
<td>-</td>
<td>2,5</td>
<td>-</td>
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<tr>
<td>Lux (D)</td>
<td>91</td>
<td>46</td>
<td>mixed</td>
<td>0</td>
<td>0</td>
<td>20% (1+2°)</td>
</tr>
<tr>
<td>Christiansen (DK)</td>
<td>95</td>
<td>14</td>
<td>mixed</td>
<td>-</td>
<td>15</td>
<td>21% (1+2°)</td>
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<tr>
<td>Gemsenjäger (CH)</td>
<td>96</td>
<td>21</td>
<td>mixed</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Lewis (GB)</td>
<td>96</td>
<td>32</td>
<td>mixed</td>
<td>-</td>
<td>9,5</td>
<td>-</td>
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<tr>
<td>Roig (E)</td>
<td>99</td>
<td>31</td>
<td>mixed</td>
<td>4</td>
<td>10</td>
<td>24% (1+2°)</td>
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<tr>
<td>Perez (E)</td>
<td>05</td>
<td>35</td>
<td>mixed</td>
<td>-</td>
<td>6</td>
<td>12</td>
</tr>
<tr>
<td>Ruppert (D)</td>
<td>10</td>
<td>153</td>
<td>trans</td>
<td>6</td>
<td>21</td>
<td>12</td>
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<tr>
<td>Herold (D)</td>
<td>09</td>
<td>148</td>
<td>mixed</td>
<td>4</td>
<td>15</td>
<td>18/14/1,5</td>
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<tr>
<td>Kraemer (D)</td>
<td>11</td>
<td>38</td>
<td>mixed</td>
<td>3</td>
<td>4</td>
<td>5</td>
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<tr>
<td>Arroyo (E)</td>
<td>12</td>
<td>70</td>
<td>trans</td>
<td>0</td>
<td>8,5</td>
<td>17</td>
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<td>Ratto (I)</td>
<td>13</td>
<td>72</td>
<td>mixed</td>
<td>1,5</td>
<td>4,1</td>
<td>?/14/1,4</td>
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<tr>
<td>Hirschburger (D)</td>
<td>14</td>
<td>50</td>
<td>mixed</td>
<td>0</td>
<td>12</td>
<td>?/17/2,7</td>
</tr>
</tbody>
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Summary

• The best way to treat fistula-in-ano?
  – I don’t know

• Low fistulae
  – By far the most common
  – Majority treated by fistulotomy

• High fistulae
  – First line: sphincter preserving technique
  – Recurrent: ? Seton
    ? Fistulectomy + sphincter reconstruction
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