Practice Parameters for the Management of Anal Fissures (Revised)

Prepared by
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STATEMENT OF THE PROBLEM

An anal fissure is a crack or tear in the vertical axis of the squamous lining of the anal canal between the anal verge and the dentate line. Fissures occur most often in the posterior midline. Acute fissures are superficial, but may deepen to expose the underlying internal sphincter. Chronic fissures are associated with secondary changes, which may include a sentinel tag, hypertrophied anal papilla, induration of the edge of the fissure, and/or relative anal stenosis secondary to spasm or fibrosis of the internal sphincter.

Effort should be made to identify the precipitating cause of the individual patient's fissure (e.g., constipation or diarrhea) and manage it appropriately, otherwise the likelihood of recurrence is high. In a minority of patients, a fissure may be associated with a systemic disease (e.g., Crohn's disease) or may be attributable to another diagnosis (e.g., anal carcinoma, sexually transmitted disease).

These guidelines address the management of the typical chronic anal fissure. Articles that did not specify chronicity of the fissure were not included in
Levels of Evidence and Grades of Recommendation

<table>
<thead>
<tr>
<th>Level</th>
<th>Source of Evidence</th>
<th>Grade</th>
<th>Grade of recommendation</th>
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<tbody>
<tr>
<td>I</td>
<td>Meta-analysis of multiple well-designed, controlled studies; randomized trials with low false-positive and low false-negative errors (high power)</td>
<td>A</td>
<td>Evidence of Type I or consistent findings from multiple studies of Type II, III, or IV</td>
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<td>II</td>
<td>At least one well-designed experimental study; randomized trials with high false-positive or high false-negative errors or both (low power)</td>
<td>B</td>
<td>Evidence of Type II, III, or IV and generally consistent findings</td>
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<td>III</td>
<td>Well-designed, quasi-experimental studies, such as nonrandomized, controlled, single-group, preoperative-postoperative comparison, cohort, time, or matched case-control series</td>
<td>C</td>
<td>Evidence of Type II, III, or IV but inconsistent findings</td>
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<tr>
<td>IV</td>
<td>Well-designed, nonexperimental studies, such as comparative and correlational descriptive and case studies</td>
<td>D</td>
<td>Little or no systematic empirical evidence</td>
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<tr>
<td>V</td>
<td>Case reports and clinical examples</td>
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TREATMENT RECOMMENDATIONS

1. Conservative therapy is safe, has few side effects, and should usually be the first step in therapy. Level of evidence: Class II; Grade of recommendation: B.

   Increased fluid and fiber ingestion, the use of sitz baths, and if necessary, the use of stool softeners such as docusate sodium or docusate calcium are very safe,1,2 have virtually no side effects, often diminish bleeding and pain, and should be instituted as a first step in virtually all patients with a fissure. These measures result in healing of up to 50 percent of symptomatic fissures, more than in untreated patients.2

   Adjunctive measures such as topical anesthetics cause no harm or decrease in healing rate, and may be used for patient comfort.3

2. Anal fissures may be appropriately treated with topical nitrates because they can relieve pain; however, nitrates are only marginally associated with a healing rate superior to placebo. Level of evidence: Class I; Grade of recommendation: A.

   Topical nitric oxide donors have been associated with healing in at least 50 percent of chronic fissures treated4–10, a rate better than placebo in some studies.6,10 However, the comprehensive Cochrane review of medical treatment of anal fissures concluded that nitroglycerin was only marginally better than placebo in healing chronic anal fissures.11 Dose escalation12 or use of a transdermal patch13 has not been shown to improve the healing rate. Use of topical nitroglycerin significantly decreases pain during the therapy period.3,6,14 The principal side effect is headache, which is dose-related. The reported incidence varies but is at least 20 to 30 percent15–17 and causes up to 20 percent of patients to discontinue therapy.15,16 The incidence of fissure recurrence after nitric oxide donor therapy is dramatically higher4,5 than after surgical therapy; however, the morbidity is lower.5,7,9 Many patients fail therapy because of inability to maintain the course of therapy with the need for repeated applications.5 Patients who do not respond to topical therapy should be referred for surgical treatment.4,5,7

3. Anal fissures may be appropriately treated with topical calcium channel blockers, which seem to have a lower incidence of adverse effects than nitrates.

   There is insufficient data to conclude whether they are superior to placebo in healing fissures. Level of evidence: Class I; Grade of recommendation: A.

   Topical calcium channel blockers have been associated with healing in 65 to 95 percent of chronic fissures.18–21 Topical calcium channel blockers seem to promote healing by reducing resting anal canal pressures.19,22 The principal side effects are headache, seen in up to 25 percent of patients,19 flushing, and less commonly symptomatic hypotension. Orally administered calcium channel blockers are associated with a lower rate of fissure healing than topical application and have a higher incidence of side effects.21 There are fewer randomized, controlled trials of topi-
cal calcium channel blockers than of topical nitric oxide donors. Few direct comparisons of topical agents are available.

4. Botulinum toxin injections may be used for anal fissures that fail to respond to conservative measures and have been associated with a healing rate superior to placebo. There is inadequate consensus on dosage, precise site of administration, number of injections or efficacy. Level of evidence: Class II; Grade of recommendation: B.

Injection of botulinum toxin into the internal sphincter produces a temporary "chemical sphincterotomy," allowing healing of 60 to 80 percent of fissures after a single injection, at a rate higher than placebo. Botulinum toxin temporarily decreases mean anal canal resting pressures, an effect that persists for two to three months. Some authors also report a transient decrease in mean squeeze pressure, usually at higher doses. Healing takes longer than after surgical sphincterotomy, but return to full activity occurs sooner. The most common side effects are transient incontinence of flatus in up to 10 percent of patients, and stool in approximately 5 percent of cases. Recurrences are common but may be retreated with a good rate of healing. Topical nitrates seem to potentiate the effect of botulinum toxin in the treatment of patients with a refractory fissure. There is no consensus on dose, site, or number of injections. Higher doses are associated with improved rates of healing and seem to be as safe as lower doses. Up to 20 percent of patients fail botulinum toxin therapy and go on to surgical sphincterotomy, this seems lower if higher doses of toxin are used. There are few randomized, controlled studies, and most reports in the literature contain small numbers, making conclusions about efficacy difficult.

5. Lateral internal sphincterotomy is the surgical treatment of choice for refractory anal fissures. Level of evidence: Class I; Grade of recommendation: A.

Lateral internal sphincterotomy (LIS) should be considered the treatment of choice for the surgical management of refractory anal fissures. The use of anal dilation with conservative treatment does not decrease the likelihood of surgery. Forceful anal dilation is inferior to LIS owing to a higher recurrence rate with higher rates of incontinence. LIS is superior to fissurectomy and posterior midline sphincterotomy owing to faster healing rates, less pain, and less postoperative incontinence. The Cochrane review of surgical treatment of anal fissures concluded that LIS was superior to anal dilation and posterior midline sphincterotomy.

6. Open and closed techniques for LIS seem to yield similar results. Level of evidence: Class I; Grade of recommendation: A.

There does not seem to be any significant difference in outcomes between the open and closed techniques.

7. Anal advancement flap is an alternative to LIS; further study is required. Level of evidence: Class II; Grade of recommendation: D.

It seems that advancement flap surgery is an acceptable alternative to LIS, but there is a lack of prospective, randomized studies in the literature. This technique may be particularly attractive in patients without sphincter hypertonia. Further study with long-term follow-up is needed.

8. Surgery may be appropriately offered without a trial of pharmacologic treatment after failure of conservative therapy; patient should be informed about the potential complications of surgery. Level of evidence: Class I; Grade of recommendation: A.

Topical treatments have problems with compliance, a lower rate of healing, and a higher recurrence rate than surgical treatment. As such, a strong case can be made for surgery without a preliminary trial of pharmacologic manipulation, although surgery clearly carries a risk of minor fecal incontinence. Surgery also is indicated for failed topical therapy. Incontinence rates in the literature for LIS vary, but prospective studies have shown an acceptable level of complications and LIS is appropriately used in place of topical therapy if stool softeners and bulking agents fail. Incontinence sufficient to cause any measurable impairment in quality of life seems to be uncommon.
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References