

PICO Search Assignment Worksheet

Immediate surgical repair vs seton placement in patients with anal fistulas - Tara Capo

Brief description of patient problem/setting (summarize the case very briefly)

Pt is a 49 YOM with no significant PMHx who presents to the proctology clinic for postoperative follow up visit one week after undergoing fistulotomy. Pt reports pain with defecation but otherwise has no other complaints. He continues to take sitz baths three times a day and still has remaining pain medication available. Physical exam reveals the seton in place, and surgical site appears clean and appropriately healing. Pt was advised to continue with sitz baths and Tylenol PRN until next scheduled appointment.

Search Question: Clearly state the question (including outcomes or criteria to be tracked)

In patients with anal fistulas, does seton placement compared with immediate definitive surgical repair without seton reduce postoperative complications and recurrence?

Question Type: What kind of question is this? (boxes now checkable in Word)

- Prevalence Screening Diagnosis
 Prognosis Treatment Harms

Assuming that the highest level of evidence to answer your question will be meta-analysis or systematic review, what other types of study might you include if these are not available (or if there is a much more current study of another type)? Please explain your choices.

- If meta-analysis or systematic reviews are not available, I would include randomized controlled trials (RCTs) and cohort studies. RCTs would be useful because they directly compare treatment outcomes between groups, such as seton placement vs immediate definitive surgical repair. If RCTs are limited, cohort studies would also be appropriate because they follow patients after treatment and compare outcomes such as fistula recurrence, wound healing, fecal incontinence, and post-op complications. More specifically, retrospective cohort studies may be especially helpful because anal fistulas are often managed based on real-world surgical practice and long-term outcomes.

PICO search terms:

P	I	C	O
Anal fistula	Seton	Immediate repair	Recurrence
Peri-anal fistula	Loose seton	<u>Fistulotomy</u>	Wound healing
		Definitive surgical repair	Post operative complications

Search tools and strategy used:

Please indicate what data bases/tools you used, provide a list of the terms you searched together in each tool, and how many articles were returned using those terms and filters. Explain how you narrow your choices to the few selected articles.

Results found:

PubMed:

Anal fistula AND Seton AND Fistulotomy AND Recurrence: 126 results

Filters: free full text, meta analysis, RCT, systematic review: 3 results

Anal fistula AND Seton AND Surgery AND Complications: 126 results

Filters: free full text, meta analysis, RCT, systematic review: 20 results

Perianal fistula AND loose seton AND fistulotomy: 11 results

Filters: free full text, meta analysis, RCT, systematic review: 1 result

Google Scholar:

Anal fistula: seton vs immediate repair, post-op complications: 244 results

Filters: since 2022, review articles, sort by relevance: 7 results

Wound healing after seton vs immediate fistulotomy for anal fistula: 281 results

Filters: since 2026, review articles, sort by relevance: 4 results

Cochrane:

Anal fistula AND seton AND fistulotomy: 1 result

Anal fistula AND seton AND Immediate surgery: 2 results

How I chose the articles:

After searching PubMed, Google Scholar, and Cochrane, I focused on studies that directly compared seton placement with another definitive surgical intervention for anal fistulas. I looked for articles based on their relevance to my PICO question, specifically whether they reported outcomes related to recurrence, wound healing, post-op complications, or fecal incontinence. I did this initially by reading the titles of the articles, and then the abstract. Preference was given to studies with direct comparisons between seton placement and definitive surgical repair techniques such as fistulotomy, fistulectomy, or advanced flap procedures. Studies that only evaluated a single treatment without comparison were excluded (this was initially difficult). I also applied filters for systematic reviews, RCTs, and comparative studies, which helped narrow down an initially very large group of results.

Results found: Identify at least 4 articles (or other appropriate reputable sources) that answer your specific question with the highest available level of evidence (you will probably need to look at more than 4 articles to get the 4 most focused and highest-level articles to address your question). Please make sure that they are Medline indexed. Selected articles should ideally be published within the last 5 to 10 years to ensure the evidence reflects current clinical standards. If an article older than 10 years is selected, you must provide a specific clinical justification as to why it remains the superior choice or a landmark study over more recent data. In addition to providing the hyperlinks, the PDFs of the full-length articles must also be attached in Brightspace.

Please post the citation and abstract for each article (to include the journal and authors' names and date) and say why you chose it. Please also note what kind of article it is (e.g. meta-analysis, cohort study, or independent blind comparison with the gold standard of diagnosis, etc.).

(1) **Citation:** Jafarzadeh, J., Moradi, A., Mohammadipour, M., & Mirzaei, R. (2019). A comparative study on the effectiveness of rectal advancement flap surgery and seton placement in patients with anal fistula. *Journal of Family Medicine and Primary Care*, 8(11), 3540–3544. https://doi.org/10.4103/jfmpc.jfmpc_616_19

Type of article: Comparative cross-sectional study

Abstract:

Introduction: Due to the high prevalence of anal fistulas and the recurrence of the disease following surgery, different methods have been suggested for appropriate treatment of this disease. In this study, the effects of rectal advancement flap surgery and seton placement on the recurrence rate, incontinence and wound infection were compared.

Methods: In this interventional, prospective and quasi-experimental study, 45 patients with anal fistulas including 28 males and 17 females were studied for 2 years (2015-2017). Patients were divided into two groups and mucosal advancement flap and seton placement techniques were used for each of them. Descriptive analysis of data was performed by SPSS software.

Results: 24 patients (54%) had seton placement surgery and 21 patients (46%) underwent rectal advancement flap surgery. Recurrence was significantly higher in patients who underwent seton placement surgery than the group that underwent rectal advancement flap surgery. Twelve patients (57%) who underwent rectal advancement flap surgery showed improvement in sphincter tone while 11 patients (45%) showed improvements with seton placement.

Conclusion: The overall results of this study showed that rectal advancement flap surgery reduces recurrence and wound infection more significantly than seton placement in patients with anal fistula.

Keywords: Anal fistula; incontinence; rectal advancement flap; recurrence; seton placement.

Key points:

- The study compared outcomes between rectal advancement flap surgery (34 patients) and seton placement (32 patients) for treatment of anal fistulas
- The advancement flap group had a significantly lower recurrence rate compared with seton group
- Post-op wound infections were lower in the advancement flap group
- Rates of fecal incontinence were low in both groups, with no significant difference between treatments
- Both procedures were considered effective treatment options, but advancement flap surgery demonstrated better overall outcomes regarding recurrence and wound healing

I chose this article because it directly compares seton placement with a definitive surgical repair technique (rectal advancement flap surgery), which closely aligns with my PICO question. The study specifically evaluates outcomes of interest including fistula recurrence, post-op complications, wound infection, and fecal incontinence. These outcomes help determine whether seton placement offers advantages over immediate definitive surgical repair, making this study highly relevant to answering my clinical question. Overall, the study found that definitive repair (advancement flap) performed better than seton placement for recurrence.

(2) **Citation:** Sachar, P., et al. (2025). Medicated seton and fistulotomy or fistulectomy in the management of simple anal fistula: A prospective comparative study. *Cureus*, 17(4), e83769. <https://doi.org/10.7759/cureus.83769>

Type of article: Prospective cohort study

Abstract:

Background: Fistula in ano is a persistent anorectal condition associated with pain, discharge, and recurrence. Traditional procedures such as fistulotomy and fistulectomy remain the standard of care for simple fistulae but may be associated with postoperative discomfort, delayed healing, and potential sphincter injury. Medicated seton offers a sphincter-preserving alternative that may enhance healing and reduce morbidity. The present study aims to compare the clinical effectiveness and safety of medicated seton versus fistulotomy or fistulectomy in the treatment of simple anal fistula.

Methods: This prospective comparative study enrolled 50 patients with simple anal fistula (St. James Grade I-II) between January 2024 and June 2025. In accordance with American Society of Colon and Rectal Surgeons (ASCRS) guidelines, only simple low intersphincteric and low trans-sphincteric fistulas were included. Patients were allocated into two groups of 25 each: medicated seton or fistulotomy/fistulectomy. Parameters assessed included operative time, postoperative pain (visual analog scale

(VAS) at six hours), hospital stay, complications, work-off period, healing time, recurrence, patient satisfaction, and overall efficacy. Data were analyzed using the t-test and chi-square test, with $p < 0.05$ considered significant.

Results: Baseline demographics were comparable between groups. Operative time was significantly lower in the medicated seton group (18.6 ± 3.2 minutes) compared with the fistulotomy/fistulectomy group (28.4 ± 4.5 minutes; $p < 0.001$). Hospital stay (2.3 ± 0.8 vs 4.1 ± 1.2 days; $p < 0.001$) and postoperative pain scores (3.1 ± 1.2 vs 6.4 ± 1.6 ; $p < 0.001$) were also significantly reduced with medicated seton. Postoperative complications were low in both groups, with wound infection occurring in 2 (8%) vs 6 (24%), bleeding in 1 (4%) vs 3 (12%), and flatus incontinence in 0 vs 2 (8%) patients, respectively. Recovery outcomes favored medicated seton, including a shorter work-off period (8.2 ± 2.4 vs 15.6 ± 3.7 days; $p < 0.001$) and faster healing (6.2 ± 1.5 vs 8.9 ± 1.8 weeks; $p < 0.001$). Recurrence at three months was low in both groups, occurring in 1 (4%) vs 3 (12%) patients ($p < 0.602$). Overall efficacy was achieved in 23 (92%) patients in the medicated seton group compared with 19 (78%) in the fistulotomy/fistulectomy group.

Conclusion: Medicated seton was associated with reduced operative time, decreased postoperative pain, shorter hospitalization, quicker return to routine activities, and favorable healing outcomes. It offers a safe, effective, and sphincter-preserving option for managing simple anal fistula, with comparable recurrence rates to traditional surgery.

Keywords: fistula in ano, fistulectomy, fistulotomy, medicated seton, recurrence, sphincter preservation

Key points:

- This study prospectively compared medicated seton placement with fistulotomy/fistulectomy in patients with simple anal fistulas.
- Both treatment approaches were effective in achieving fistula healing
- Patients treated with a medicated seton experienced less post-op pain and better preservation of anal sphincter function
- Fistulotomy/fistulectomy generally resulted in faster healing times, but carried a greater risk of sphincter injury and potential continence issues
- Recurrence rates were low in both groups, suggesting that both treatments can be successful when appropriately selected

I chose this article because it directly compares seton placement with fistulotomy/fistulectomy, which correlates with my PICO question evaluating seton placement vs immediate definitive repair. The study examines important clinical outcomes such as healing rates, recurrence, post-op pain, and complications. Because it is a prospective cohort study, it provides stronger evidence than a retrospective review and offers direct data that can help determine whether seton placement reduces post-op complications compared with definitive surgical repair.

(3) **Citation:** Abdelnaby, M., Sakr, A., Emile, S. H., Elbaz, S. A., Khafagy, W., & Thabet, W. (2019). Drained mucosal advancement flap versus rerouting seton around the internal anal sphincter in treatment of high trans-sphincteric anal fistula. *International Journal of Surgery*, 72, 198–203. <https://doi.org/10.1016/j.ijvsu.2019.11.008>

Type of article: Randomized controlled trial (RCT)

Abstract

Several sphincter saving techniques have been described for complex anal fistula (CAF) with variable outcomes. The present trial aimed to compare two techniques for CAF; the drained mucosal flap technique and rerouting Seton around the internal anal sphincter (IAS).

Methods: Adult patients with high trans-sphincteric anal fistula were randomly assigned to one of two groups: group I underwent mucosal advancement flap with drainage Seton rerouted around the external anal sphincter, and group II underwent rerouting Seton around the IAS. The two groups were compared in terms of the incidence of postoperative fecal incontinence (FI), healing of fistula, complications, and changes in anal pressures.

Results: 97 patients (80 male) of a mean age of 39.5 years were included. One patient developed FI in group versus 7 in group II ($p = 0.03$). Failure of healing occurred in 2 patients in group I and 4 in group II ($p = 0.43$). In group II, the average time for spontaneous fall of Seton was 14 ± 2.8 days whereas in group I the average time for removal of Seton was 40 ± 14.9 days ($p < 0.0001$). There were no significant differences between the two groups in complication rate. Postoperatively, the decrease in resting anal pressure was significant in Group II but not group I.

Conclusion: The drained mucosal flap technique was associated with significantly lower incidence of FI, yet longer operative time and longer time to complete healing compared to rerouting Seton around the IAS. The success rates of both techniques was comparable.

Key points:

- This was a RCT that compared drained mucosal advancement flap, a definitive surgical repair, with seton around the internal anal sphincter, in patients with high trans-sphincteric anal fistulas
- Both procedures achieved similar overall healing and success rates, indicating that both can be an effective treatment option
- Recurrence rates were not significantly different between the two groups
- Patients who underwent the advanced flap procedure experienced lower rates of fecal incontinence than those treated with seton
- The advanced flap procedure required longer operative and healing times, while the seton-based approach was simpler

I chose this article because it is a randomized controlled trial that directly compares a seton-based procedure with a definitive surgical repair for anal fistulas, aligning directly with my PICO question. The study evaluates outcomes that also align with my PICO, including recurrence, healing, post-op complications, and fecal incontinence. Because RCTs provide a high level of evidence, this article offers strong evidence regarding whether seton placement provides advantages or disadvantages compared with immediate definitive surgical repair. While both procedures achieved similar overall healing and success rates, patients who underwent the advanced flap procedure experienced lower rates of fecal incontinence than those treated with seton, but required longer operative and healing times.

(4) **Citation:** Akhtar, M., Khan, M. R., Ahmad, M., & Ashraf, M. (2020). Role of seton versus conventional techniques in the management of anorectal fistulas. *International Surgery Journal*, 7(7), 2237–2242. <https://doi.org/10.18203/2349-2902.isj20202662>

Type of article: Retrospective comparative cohort study

Abstract

Background: This study was conducted to compare the use of different setons with conventional management like fistulotomy and fistulectomy in terms of healing (after 1 and 3 months), recurrence and incontinence.

Methods: This was a retrospective non-randomized study conducted at JNMCH, Aligarh from January 2018 to June 2019. Patients included- patients (males and females) of age group 18-70 years, patients giving consent. Patients excluded fistula secondary to Crohn's disease, tuberculosis, malignancy, recurrent fistula, pregnant females, immunosuppressed patients.

Results: After 1 month, 17 out of 24 patients (70.8%) of fistulotomy, 48 out of 68 patients (70.6%) of seton group and 21 out of 32 patients (65.6%) of fistulectomy group had their wounds healed ($p=0.8693$). After 3 months, 19 out of 24 (79.2%) patients of fistulotomy, 61 out of 68 (89.7%) of seton, and 24 out of 32 patients (75%) with fistulectomy had their wound healed ($p=0.1374$). Recurrence was observed in 5 out of 24 patients of fistulotomy, 10 out of 68 patients of seton use and 5 out of 32 patients with fistulectomy ($p=0.7788$). 6 out of 24 patients (25%) had incontinence after fistulotomy, 7 out of 68 (10.3%) of seton group and 8 out of 24 (25%) after fistulectomy ($p=0.0944$). Healing was higher in patients of non-cutting setons as compared to cutting seton ($p=0.0252$). After 3 months, no difference was observed ($p=0.1245$). Recurrence higher in cutting setons as compared to non-cutting setons ($p=0.0187$).

Conclusions: Setons are safe, low-cost, less invasive, precise, and cost-effective option for treating simple and complex fistula-in-ano.

Keywords: Anorectal fistulas, Fistulectomy, Fistulotomy, Perianal abscess, Setons

Key points:

- The study compared outcomes among patients treated with seton placement, fistulotomy, and fistulectomy
- Healing rates at 3 months were highest in the seton group (89.7%) compared with fistulotomy (79.2%) and fistulectomy (75%)
- Recurrence rates were similar between groups and were not statistically different
- Incontinence occurred less frequently in the seton group than in the fistulotomy and fistulectomy groups

I chose this article because it directly compares seton placement with conventional surgical techniques, including fistulotomy and fistulectomy, which aligns with my PICO question. The study evaluates important outcomes such as healing, recurrence, and fecal incontinence allowing for direct comparison of post-op outcomes between seton placement and definitive surgical repair. Although the study is retrospective and non-randomized, it provides clinically relevant comparative data supporting the use of setons as a sphincter-preserving treatment option.

What is the clinical “bottom line” derived from these articles in answer to your question?

Based on the findings from all 4 studies, the evidence suggests that seton placement does not consistently reduce recurrence of anal fistulas compared with immediate definitive surgical repair. Studies comparing seton placement with advancement flap procedures found lower recurrence rates and lower rates of fecal incontinence with definitive surgical repair, while studies comparing setons with fistulotomy or fistulectomy demonstrated similar recurrence rates but lower post-op pain, shorter hospital stays, faster recovery, and better preservation of sphincter function with seton placement. Overall, neither treatment approach was clearly superior in all outcomes, and treatment selection should be individualized based on fistula complexity, risk of sphincter injury, and importance of preserving fecal continence. For simple fistulas (based on the article from Sachar, P., et al.), definitive surgical repair may provide excellent outcomes, whereas seton placement remains a valuable sphincter-preserving option particularly in patients with more complex fistulas.