



Excisional Hemorrhoidectomy; How to overcome post hemorrhoidectomy pain ?

Prof. Waleed Omar MD, PhD.

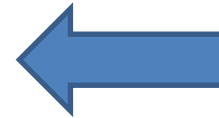
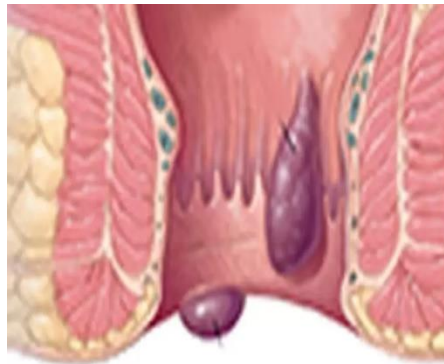
Prof of colorectal surgery

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Background

- Excisional hemorrhoidectomy is a commonly performed procedure for high grade hemorrhoids, with low recurrence rate in comparison to non- excisional techniques.
- Most guidelines recommend this technique as the mainstay treatment for grade III and IV hemorrhoids.



MacRae HM, McLeod RS. *Dis Colon Rectum*. 1995;38:687–94.
Simillis, C., et al . *Br. J. Surg*. 2015, 102, 1603–1618.
Hawkins, et al *Dis Colon Rectum* 2024; 67: 614–623
van Tol et al. *Colorctal Disease* 2020; 22:650-662

Background


Colorectal
Disease



ESCP |  Full Access



European Society of ColoProctology: guideline for haemorrhoidal disease

R. R. van Tol, J. Kleijnen, A. J. M. Watson, J. Jongen, D. F. Altomare, N. Qvist, T. Higuero, J. W. M. Muris, S. O. Breukink 



4.4 Haemorrhoidectomy could be used in patients with Grade II–III haemorrhoids and/or should be used in patients who are refractory to outpatient procedures.

Moderate level of evidence.

4.5 Haemorrhoidectomy should be used for Grade IV haemorrhoids.

Moderate level of evidence.

Background

CLINICAL PRACTICE GUIDELINES

The American Society of Colon and Rectal Surgeons Clinical Practice Guidelines for the Management of Hemorrhoids



Alexander T. Hawkins, M.D., M.P.H.¹ • Bradley R. Davis, M.D.²
Anuradha R. Bhama, M.D.³ • Sandy H. Fang, M.D.⁴ • Aaron J. Dawes, M.D., Ph.D.⁵
Daniel L. Feingold, M.D.⁶ • Amy L. Lightner, M.D.⁷ • Ian M. Paquette, M.D.⁸



OPERATIVE TREATMENT

Excisional Hemorrhoidectomy

7. Excisional hemorrhoidectomy should typically be offered to select patients with external hemorrhoids or patients with symptomatic combined internal and external hemorrhoids (grades III–IV). Strength of recommendation: strong based on high-quality evidence.

Background

- However, postoperative pain is a **challenging problem** which can be dreadful to some patients.
- The incidence of moderate to severe pain following conventional hemorrhoidectomy could be as high as **65%**.
- Many strategies have been advocated to minimize the postoperative pain.



Causes of post operative pain

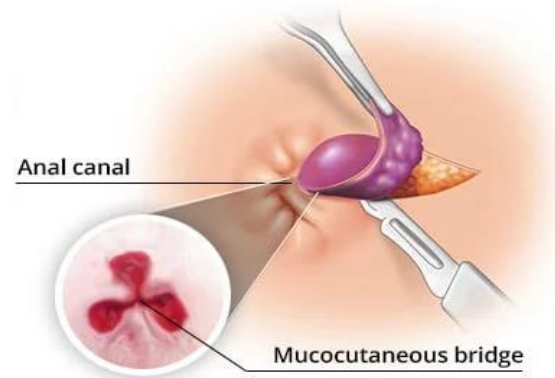
- **Multiple factors can cause this pain:**
 - Spasm of the Internal Anal Sphincter(IAS) after exposure of its fibers.
 - Insertion of anal pack.
 - Injury of the nerve endings or the mucosal lining of the anal canal.
 - Suturing at the pedicle or below the dentate line.
 - Wound infection.

Pattern of postoperative pain

- **Two patterns of pain have been recognized:**
 - ✓ **Rest pain** affects the majority of the patients and occurs spontaneously without attempt of straining or defecation.
 - ✓ **Defecation pain:** during or after defecation as a result of irritation of the anal wound by fecal matter combined with the spasm of the IAS.
- Usually the defecation pain starts in the 2nd or 3rd postoperative day after the peak of the rest pain.



How to minimize the post hemorrhoidectomy pain ?



Methods to decrease pain

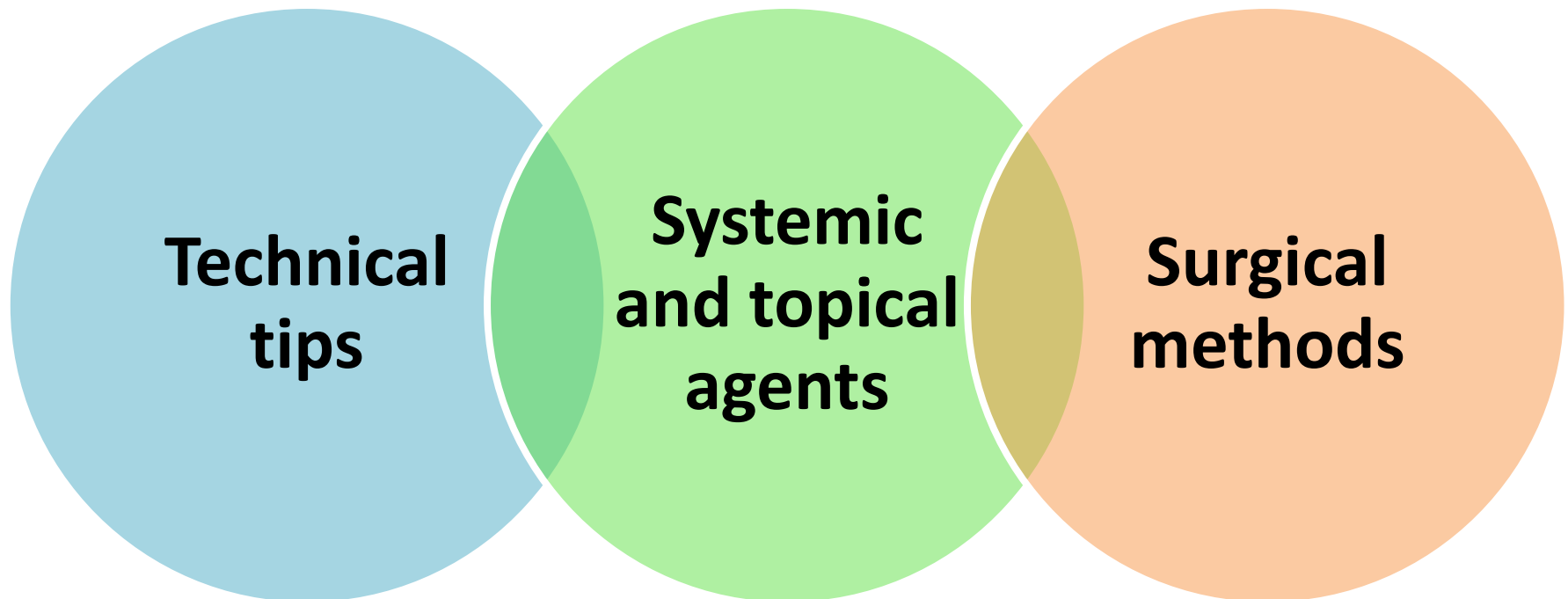
Review Article

Evidence-based review of methods used to reduce pain after excisional hemorrhoidectomy



Sameh Hany Emile

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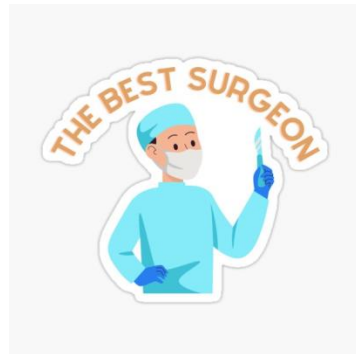




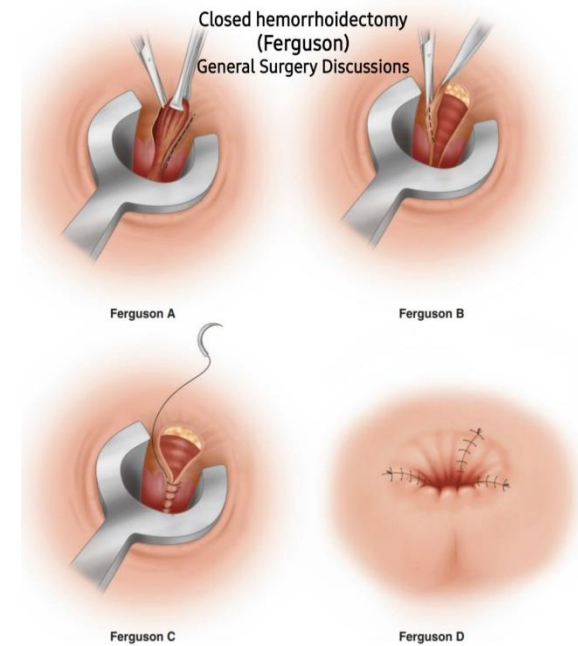
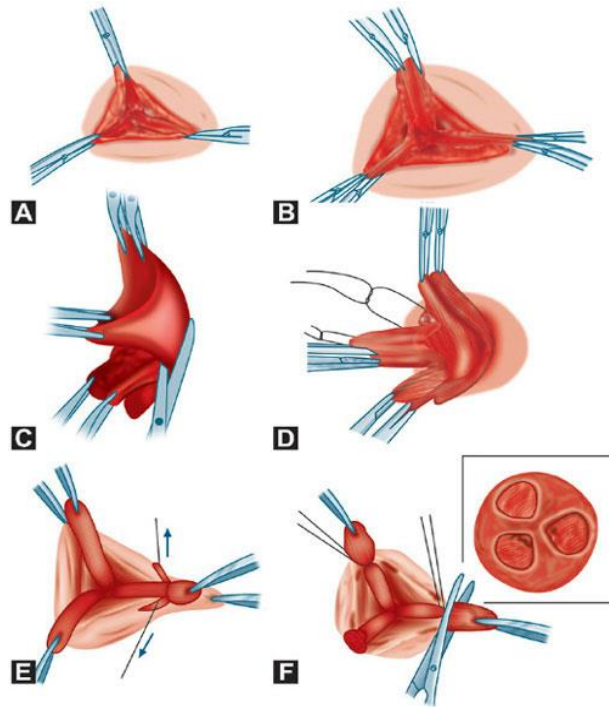
**Technical
tips**

Technical tips

- ✓ The primary skin incision should be as **narrow** and limited as possible.
- ✓ The pedicle sutures should be **above the dentate line**.
- ✓ Maintaining **adequate hemostasis** is mandatory to avoid the insertion of **gauze pack** that would cause substantial discomfort and pain to the patient postoperatively.
- ✓ Advising the patient to take **warm Sitz bath** has been associated with significant relief of pain due to relaxing the IAS.



Open vs. closed technique



- Some debate but, generally there is no difference between both techniques in postoperative pain.

Diathermy vs. Scissors



- No significant difference regarding the pain.

Hemorrhoidectomy using energy devices

Randomized clinical trial

Randomized clinical trial of LigaSure™ and conventional diathermy haemorrhoidectomy

M. G. Muzi, G. Milito, C. Nigro, F. Cadeddu, F. Andreoli, D. Amabile and A. M. Farinon



 Full Access


Haemorrhoidectomy with Ligasure™ vs conventional excisional techniques: meta-analysis of randomized controlled trials

G. Milito, F. Cadeddu, M. G. Muzi, C. Nigro, A. M. Farinon

- **Ligasure** was found to be better as regard pain, and wound healing rate in comparison to Harmonic scalpel and the diathermy.

Muzi et al. *Br J Surg.* 2007;94:937–42.

Milito et al. *Colorectal Dis.* 2010;12:85–93.



**Systemic
and topical
agents**

Systemic and topical agents

❖ Analgesics

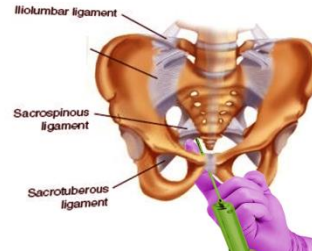
- Analgesics either local or systemic can decrease the post hemorrhoidectomy pain.
- Combined oral administration and local injection into IAS fibers of **ketorolac** achieved equivalent pain control to that of the **narcotics group**.
- **Patient-Controlled Analgesia (PCA)** has the superiority over conventional pain therapy in reducing pain but for the 1st postoperative day.



O'Donova et al. *Dis Colon Rectum*. 1994;37:793–9.
Hancke et al. *Chirurg*. 2013;84:587–93.

Systemic and topical agents

 **frontiers** | Frontiers in **Medicine**



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The role of pudendal nerve block in hemorrhoid surgery: a systematic review and meta-analysis of double-blind randomized controlled trials

Shijun Xia, Lidan Luo, Wenjiang Wu*, Kaiyuan Lu, Tao Jiang and Yue Li

Shenzhen Hospital of Guangzhou University of Chinese Medicine, Shenzhen, China

Conclusion: Pudendal nerve block (PNB) could effectively relieve postoperative pain of hemorrhoids. However, our results still need to be confirmed by multi-center clinical studies.

Tegon et al. *Tech Coloproctol.* 2009;13:219–24.

Haas et al. *Am Surg.* 2012;78:574–81.

Imbelloni et al. *Dis Colon Rectum.* 2007;50:1656–61.

Systemic and topical agents

❖ Flavonoids

- They are used in combination with antibiotic and anti-inflammatory medications to decrease pain and bleeding.
- Inhibit the inflammatory process, reducing edema, improving venous tone.

❖ Antibiotics

- **Metronidazole** is used to decrease pain via its antimicrobial action that reduces the bacterial colonization at the surgical sites.
- Topical metronidazole ointment has higher tissue concentration than the oral medication.

La Torre et al. *Dis Colon Rectum*. 2004;47:704–10.

Colak et al. *Surg Today*. 2003;33:828–32.

Ala et al. *Dis Colon Rectum*. 2008;51:235–8.





Nicholson et al. *Dis Colon Rectum*. 2004;47:711–6.

Systemic and topical agents

ORIGINAL ARTICLE

IWJ WILEY

The efficacy of topical sucralfate in improving pain and wound healing after haemorrhoidectomy procedure: A systematic review, meta-analysis, and meta-regression of randomised clinical trials

Reno Rudiman¹  | Ricarhdo Valentino Hanafi²  | Cecilia Evan³  | Freda Halim⁴ 

- Topical sucralfate is considered to enhance epidermal growth and tissue granulation
- Theoretically, topical sucralfate might improve pain and accelerate wound healing after haemorrhoidectomy



Ala et al. *World J Surg.* 2013;37:233–8.
Ala et al. *World J Surg.* 2013;37:657–62.

Chemical sphincterotomy

- Since the IAS was thought to be the major factor contributing to pain after EH...
- Topical medication that reduce direct relaxation of the IAS (chemical sphincterotomy) were tried to decrease pain.
- **Categories of the medication:**

Ca channel blocker

GTN

Botulinum toxin

Botulinum Toxin (Botox[®]) Reduces Pain After Hemorrhoidectomy

Results of a Double-Blind, Randomized Study

Justin Davies, M.D., David Duffy, M.R.C.S., Nicholas Boyt, M.R.Pharm.S.,
Assad Aghahoseini, F.R.C.S., David Alexander, M.S., Stephen Leveson, M.D.

From the Department of Colorectal Surgery, York District Hospital, York, United Kingdom

This is the first prospective, randomized study of botulinum toxin in patients undergoing hemorrhoidectomy. The study demonstrates that botulinum toxin resulted in reduced pain in patients toward the end of the first week after surgery, which was significantly better on both Day 6 and Day 7, with no reported adverse side effects.



Amoli et al. *Colorectal Dis.* 2011;13:328–32.

Silverman et al. *Dis Colon Rectum.* 2005;48:1913–6.

Ratnasingham et al. *Int J Surg.* 2010;8:606–11.

Davies et al. *Dis Colon Rectum.* 2003;46:1097–102.

Poylin et al. *Int J Colorectal Dis.* 2014;29:1565–9.

Systemic and topical agents

❖ Miscellaneous topical agents


- Application of vitamin E ointment.
- Intradermal injection of methylene blue.
- Topical application of atorvastatin.
- Local thermal application.
- Cholestyramine ointment 15%.

Ruiz-Tovar et al. *Int J Colorectal Dis.* 2016;31:1371–2.

Sim and Tan. *Colorectal Dis.* 2014;16:O283–7.

Ala et al. *World J Surg.* 2017;41:596–602.

Balta et al. *Am Surg.* 2015;81:182–6.



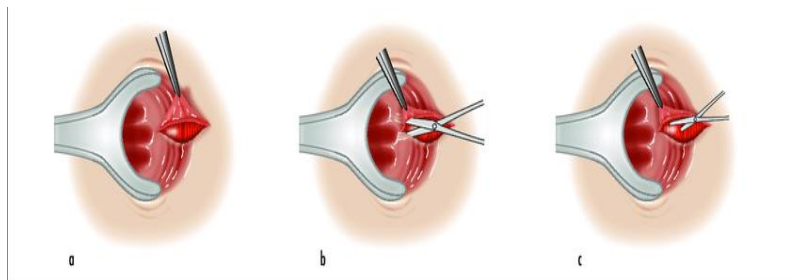
**Surgical
methods**

Surgical methods

Adopting the concept of Chemical sphincterotomy: some surgical procedures can be combined with EH to weaken the spasm of IAS e.g :

- **LIS**
- **anal dilatation** (not done because of its high complication.)

- **Lateral Internal Sphincterotomy (LIS)** is the most popular procedure.
- LIS significantly reduces postoperative pain, analgesic requirements, and the incidence of postoperative urinary retention.
- However, should be tailored.
- Some authors think it is not justified to make a permanent insult in the internal sphincter for a temporary pain.



Emile et al. *Int J Colorectal Dis.* 2016;31:1261–72
Mathai et al. *Br J Surg.* 1996;83:380–2.
Khubchandani. *Dis Colon Rectum.* 2012;45:1452–7.
Galizia et al. *Eur J Surg.* 2000;166:223–8.

Research article

Open Access

Internal sphincterotomy reduces postoperative pain after Milligan Morgan haemorrhoidectomy

Giuseppe Diana^{*†}, Giovanni Guercio[†], Bianca Cudia[†] and Calogero Ricotta[†]



Conclusion: internal sphincterotomy: reduces significantly pain only in the first postoperative period, but not in the medium-long term follow up; does not increase the incidence of continence impairment when performed; does not influence the incidence of the other postoperative complications especially as regard medium and long term results.

Summary & Conclusion

- ❑ Still, there is no consensus on how to prevent or at least minimize the severity of pain after hemorrhoidectomy.
- ❑ Since the origin of post-hemorrhoidectomy pain is probably multifactorial, a multimodality treatment may be needed.
- ❑ The use of **Ligasure and the application of topical GTN ointment** contributed to remarkable relief of postoperative pain according to the **highest level of evidence.**





THANK YOU