



LASER HAEMORRHOIDS

LIVE SURGERY WORKSHOP

Speaker:



Assistant Professor Dr. Faisal Elagili

Consultant Colorectal Surgeon

Department of Surgery,
Faculty of medicine,
International Islamic University
Malaysia (IIUM)

Program:

- 0800 - 0830 Registration & Breakfast
- 0830 - 0930 Welcoming address and lecture
Asst Prof Dr. Faisal Elagili
- 0930 - 1030 Live Surgery
Laser Haemorrhoids case 1
- 1030 - 1130 Live Surgery
Laser Haemorrhoids case 2
- 1130 - 1230 Lunch break
- 1230 - 1330 Live Surgery
Laser Haemorrhoids case 3
- 1330 - 1430 Live Surgery
Laser Haemorrhoids case 4
- 1430 - 1530 Case discussion & Tea break
- 1530 - 1600 Certificate & Group Photo

Mon | 19th DEC 2022

8 am - 4 pm



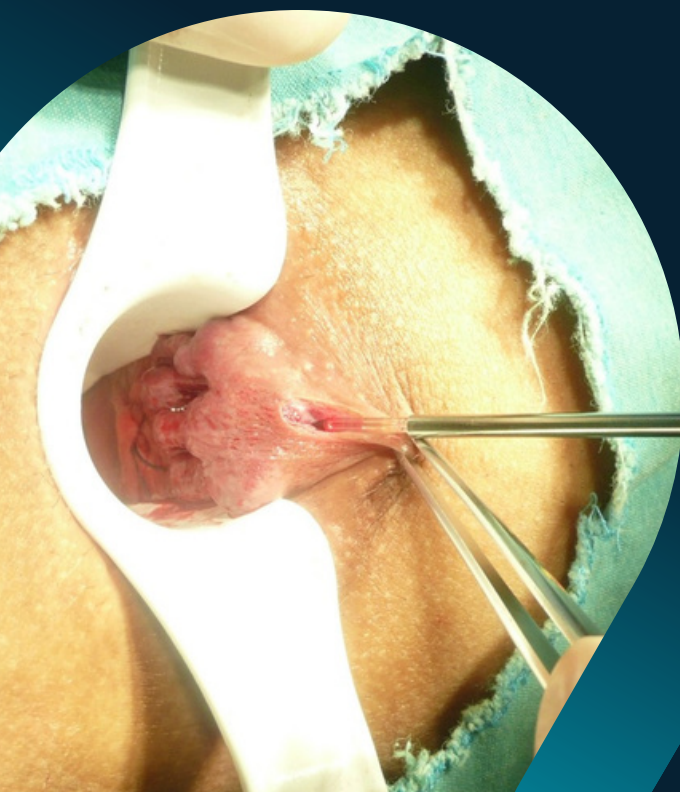
**International Islamic University
Malaysia (IIUM)**

FOR REGISTRATION, KINDLY CONTACT:

- **CK Tang: 017-737 7008** or
- **Lee: 012-488 2377**

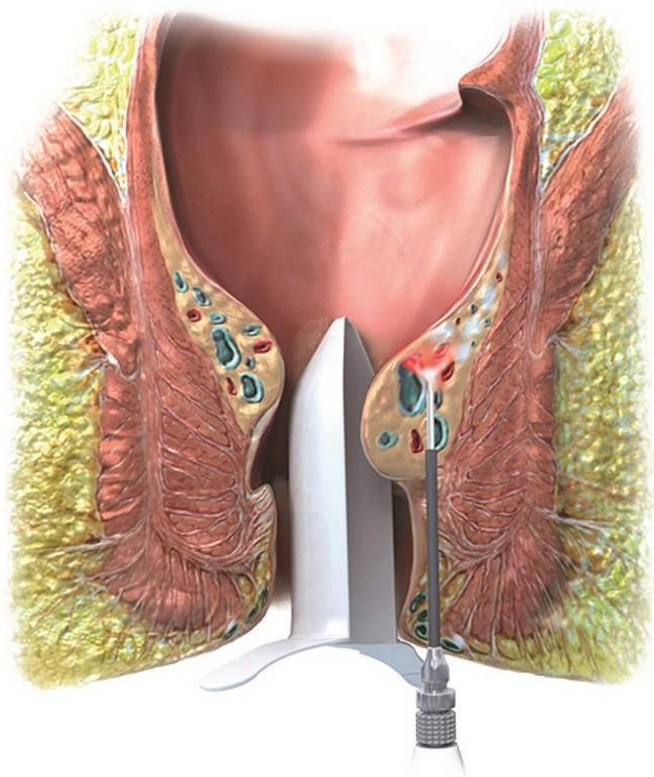
*On first come first serve basis.

*Certificate of attendance will be issued.



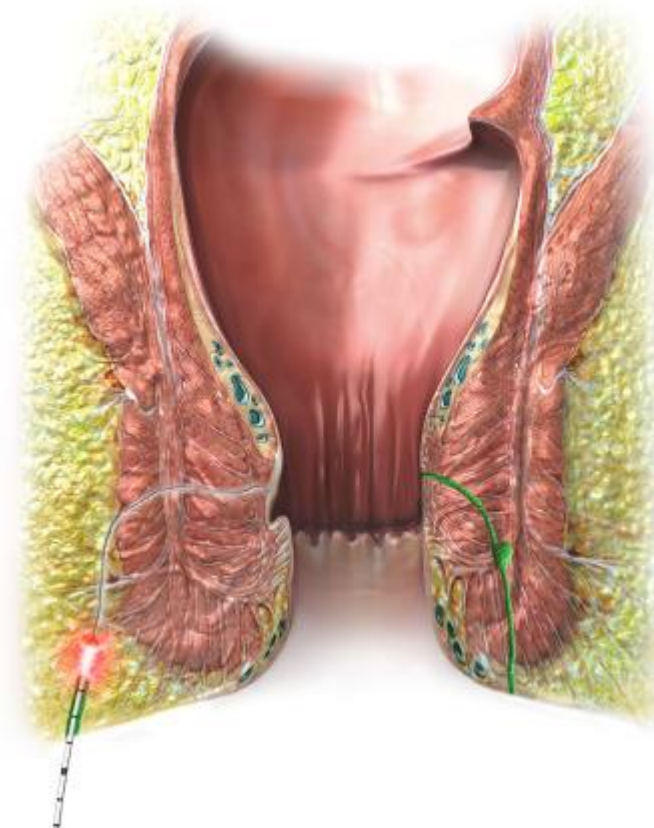


Laser Haemorrhoidoplasty (LHP) Procedure

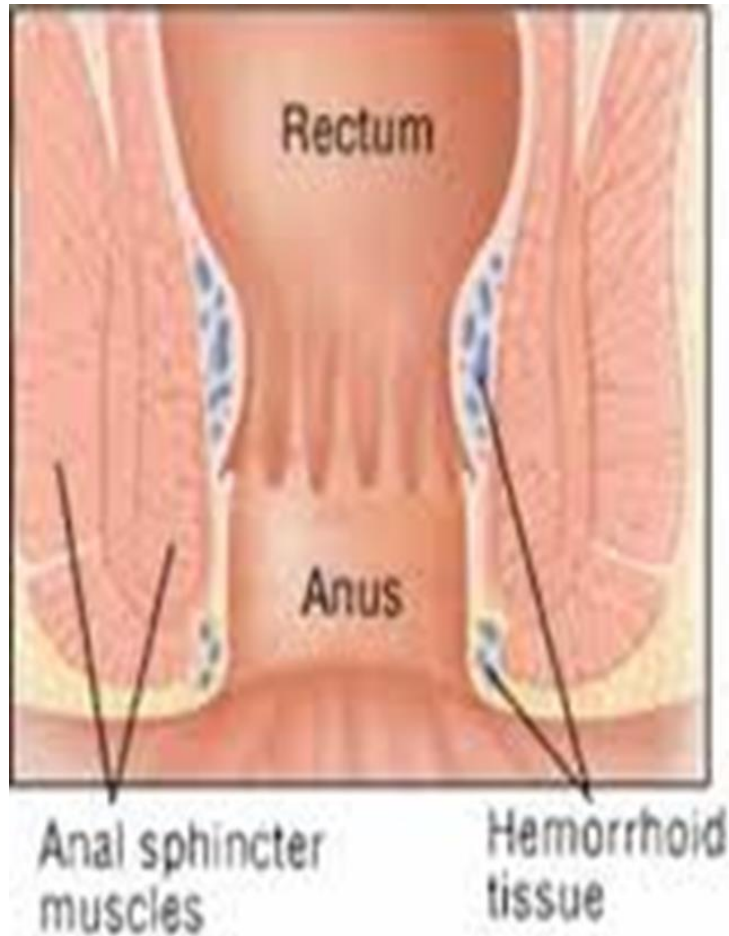


Asst Prof Dr. Faisal Elagili.
Consultant Colorectal Surgeon

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Hemorrhoids



← Anatomical

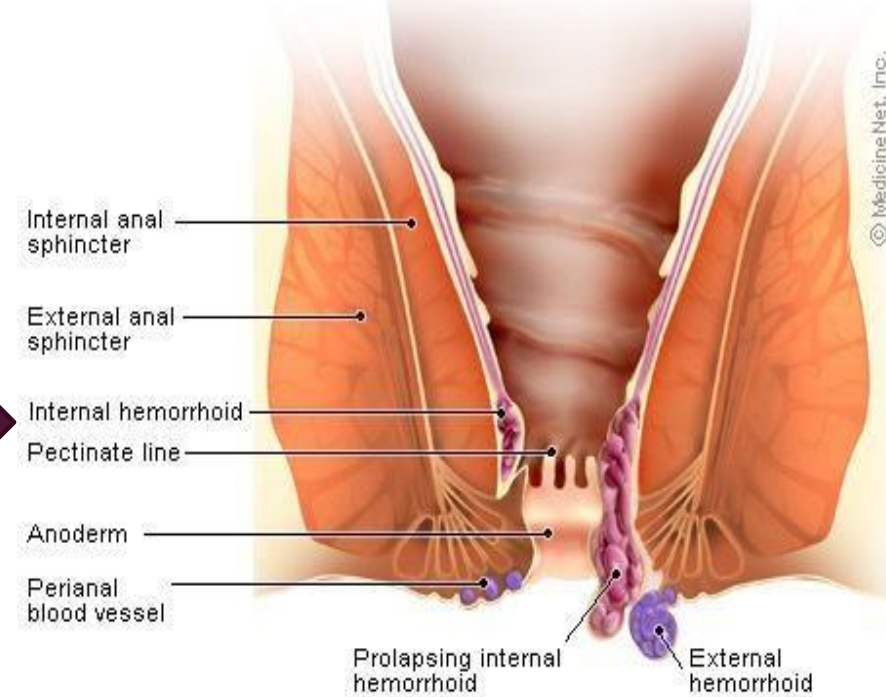
Venous plexuses:
 - internal
 - external

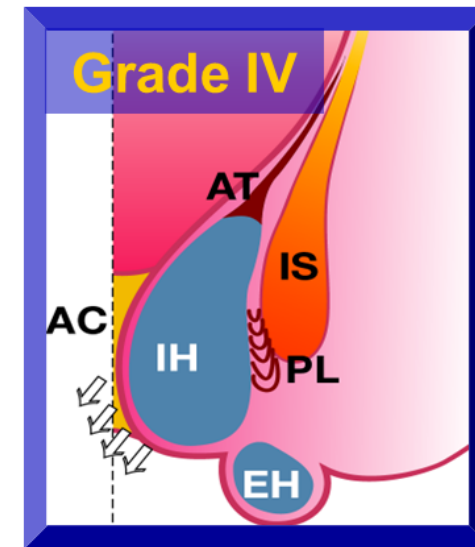
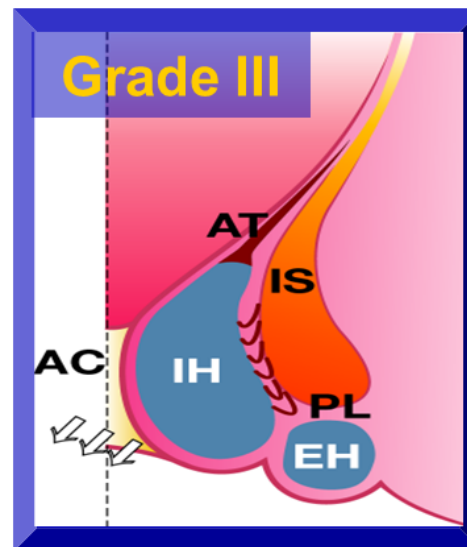
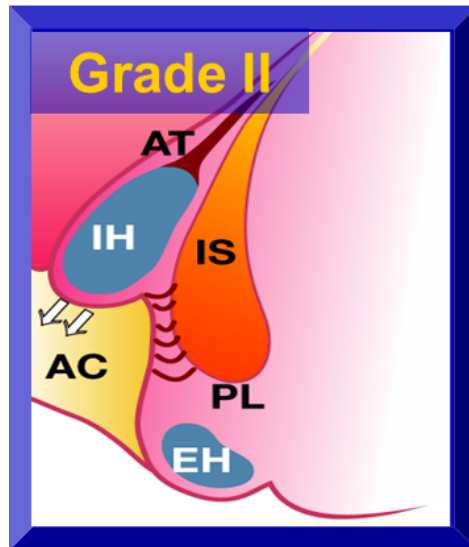
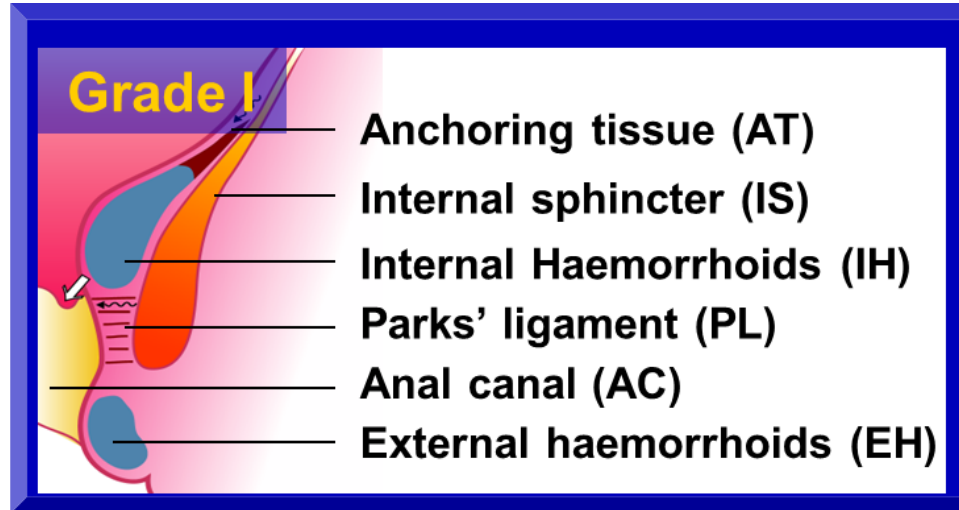
Submucosal cushion

Pathological →

Consequences of venous plexuses downward displacing

Formation of hemorrhoids





GRADING OF HAEMORRHOIDS

Treatment of Hemorrhoids

Clinical Practice Guidelines: Hemorrhoids

Initial Evaluation should include Complete endoscopic evaluation in select pts w/ bleeding (1B)



1st Line Treatment: dietary modification, fiber, toileting habits (1B)



Office-based procedures can be used for grade I/II if medical Treatments fail (1A)



Early excision of Thrombosed External hemorrhoids within 3 days (2C)



Surgical Hemorrhoidectomy should be offered if symptomatic external or grade III/IV internal (1A)



Multimodal pain regimen should be used to reduce narcotics after surgery(1B)



DISEASES
OF THE
COLON &
RECTUM



SURGICAL TREATMENTS

- A total of 14 surgical techniques were identified for the treatment of grade 3 and 4 hemorrhoids:
 - Open (Milligan-Morgan) hemorrhoidectomy,
 - Closed (Ferguson) hemorrhoidectomy
 - Transanal hemorrhoidal dearterialization (THD)
 - Harmonic scalpel
 - Liga Sure
 - Starion hemorrhoidectomy with submucosal dissection
 - Suture ligation
 - Semi-closed
 - Bipolar diathermy
 - Partial stapled
 - Stapled hemorrhoidectomy
 - Doppler-guided hemorrhoidal artery ligation
 - Infrared photocoagulation
 - Laser

LASER HAEMORRHOIDOPLASTY (LHP)

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Original Article

A New Method For Hemorrhoid Surgery: Intrahemorrhoidal Diode Laser, Does It Work?

Hélio Plapler, M.D., Raduan Hage, Vet.M.D., Janaina Duarte, Vet.M.D., Nilza Lopes, M.Sc.,
Igor Masson, M.Sc., Cláudio Cazarini, M.Sc., and Thiago Fukuda, M.Sc.

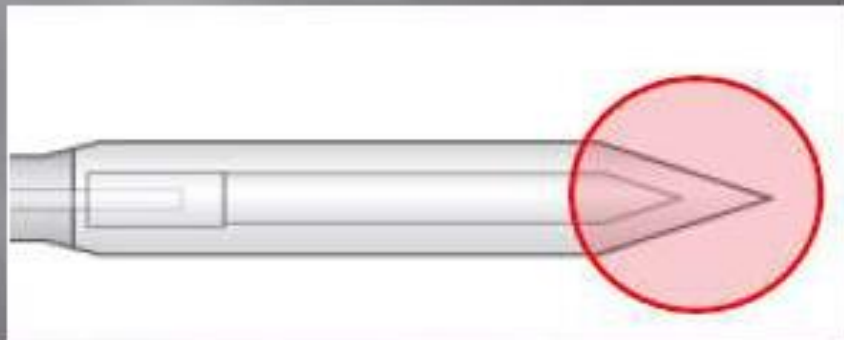
Abstract

Objective: This study aimed to describe the clinical results of intrahemorrhoidal application of a diode laser. **Background Data:** Hemorrhoids are a common source of pain, and no surgical technique achieves a painless outcome. Endovascular laser therapy for varicose veins as described in an experimental study is a method that could be used in the treatment of hemorrhoids, but there are few clinical trials described in the literature. **Materials and Methods:** Fifteen patients with second and third degree hemorrhoids underwent intrahemorrhoidal laser therapy. After the piles were identified, a fiber was introduced into each and it was irradiated with laser energy (810 nm, 5 W, frequency of 5 Hz, energy density of 19 J/cm², total energy of 4–10 J). **Results:** The piles were immediately partially reduced, and clinical examination 7, 14, 21, and 28 d after surgery showed complete healing in nine patients (60.4%) and partial resolution in five patients (33%). In one patient (6.6%) the treatment failed. Mean pain intensity throughout the study period, measured by a visual analog scale (0–10), was 0.84 ± 1.13 (mean ± SD). Major complications were burn lesions ($n = 4$) and residual plicoma (skin tag) ($n = 5$). Ten control patients underwent an open “cold scalpel” hemorrhoidectomy. Their pain intensity was 1.78 ± 0.68 (mean ± SD). There was a significant statistical difference ($p = 0.018$) between groups. **Conclusion:** The diode laser energy delivered into small to median hemorrhoidal piles caused little pain and led to a partial to complete resolution within a short time compared to open hemorrhoidectomy. Some adjustments must be made to prevent burning lesions and residual plicoma. Although it is not a good method for big piles, this technique opens new possibilities for surgical treatment of hemorrhoidal disease.

LASER



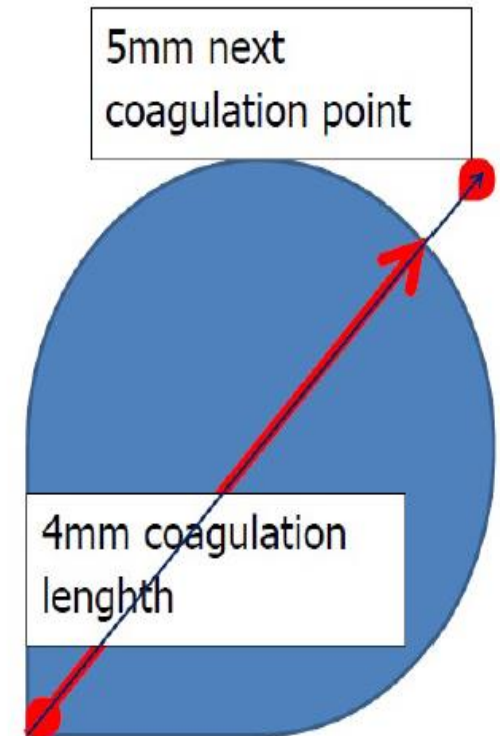
LASER



Each laser Pulse will result in a coagulation zone of 4mm in diameter at the tip of laser probe

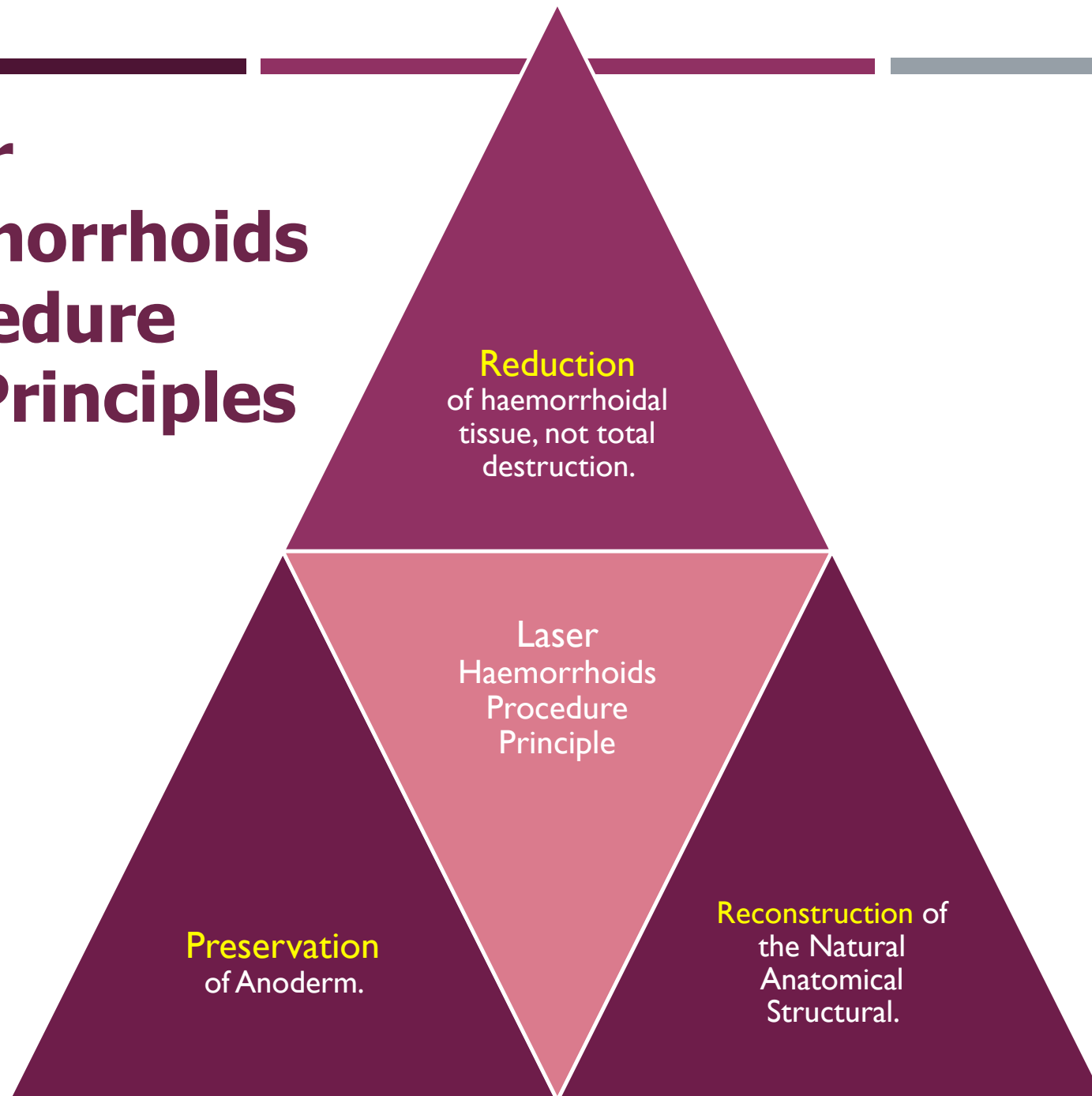
OPTIMAL LASER SETTINGS

- 1470 nm diode laser
- 8 watts
- 3 second
- Coagulation area is approximately 4 mm
- Next coagulation point 5 mm



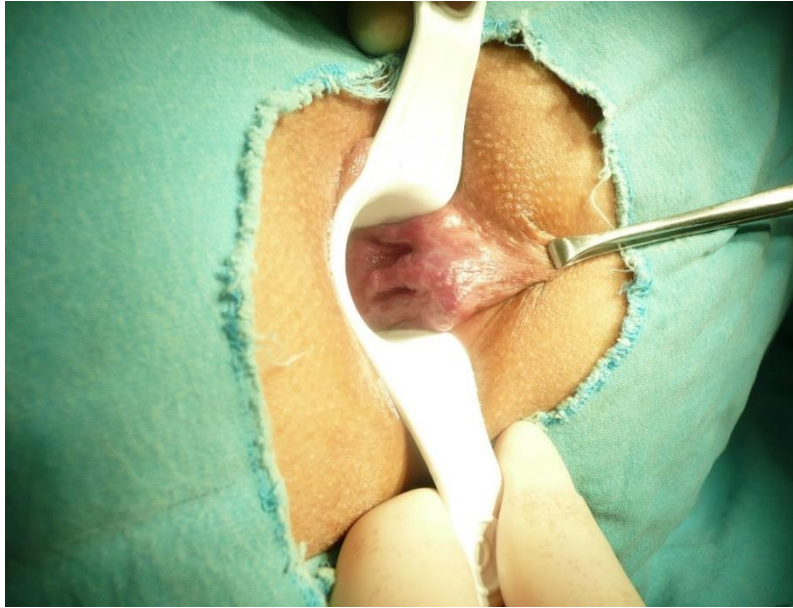


Laser Haemorrhoids Procedure :- 3 Principles

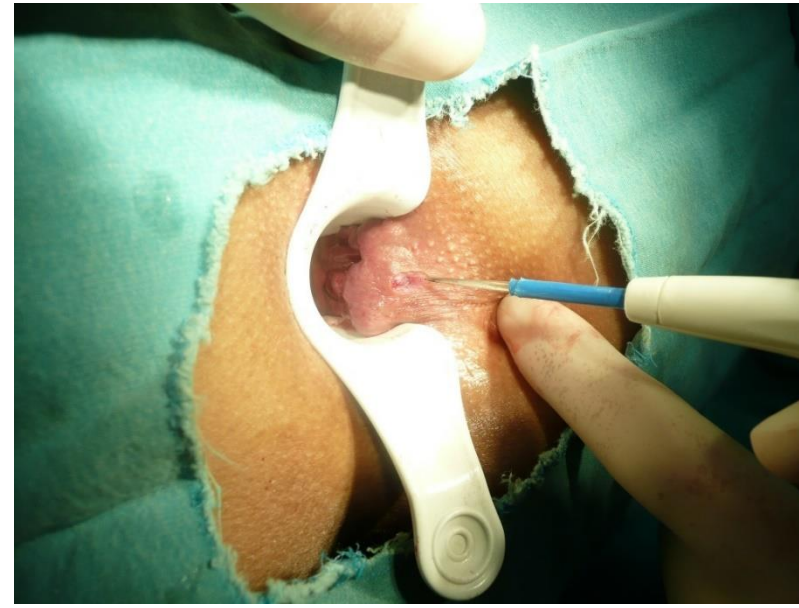




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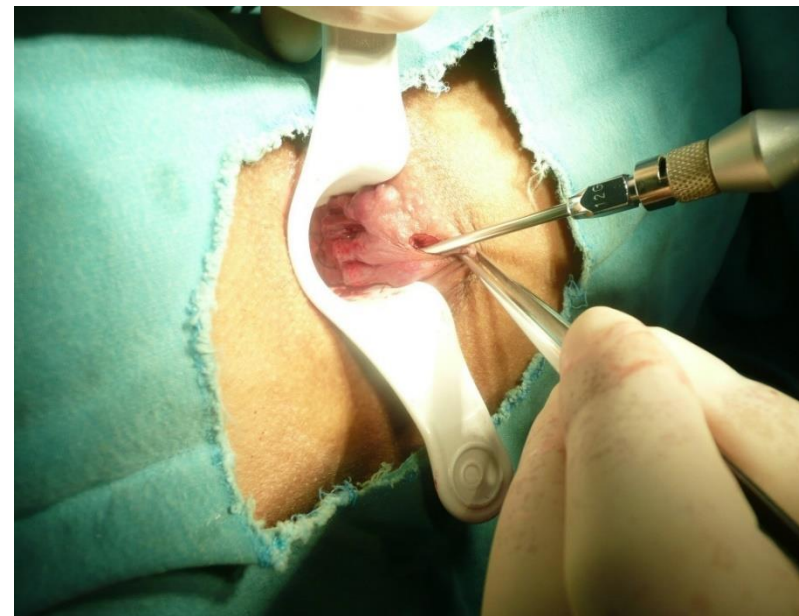
2



3



4



Immediate Post Op Results

Before Laser

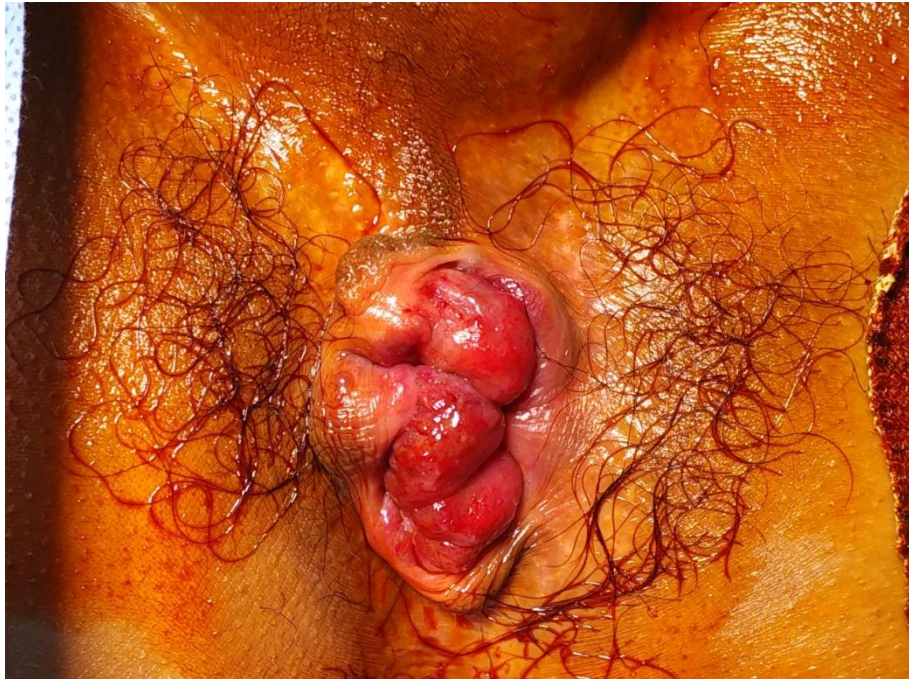


After Laser



Immediate Post Op Results

Before Laser



After Laser





Systematic review and meta-analysis of postoperative pain and symptoms control following laser haemorrhoidoplasty versus Milligan-Morgan haemorrhoidectomy for symptomatic haemorrhoids: a new standard

Varen Zhi Zheng Tan¹ · Ern-wei Peck¹ · Sharmini S. Sivarajah² · Winson J. Tan² · Leonard M. L. Ho² · Jia-Lin Ng² · Cheryl Chong² · Darius Aw² · Franky Mainza³ · Fung-Joon Foo² · Frederick H. Koh²

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Abstract

Purpose Haemorrhoidal disease (HD) plagues one in every ten people, with a plethora of surgical treatment modalities, of which laser haemorrhoidoplasty (LHP) is a relatively novel option. This systematic review and meta-analysis objectively evaluated the efficacy, safety, and tolerability of LHP compared against conventional (Milligan-Morgan) open haemorrhoidectomy (CoH).

Method A comprehensive search of MEDLINE, EMBASE, CENTRAL, and Google Scholar was conducted. Randomised controlled trials (RCTs) and comparative cohort studies (CCSs) which compared LHP against CoH were included, with postoperative pain as the primary outcome. Secondary outcomes included intraoperative characteristics, short- and moderate-term outcome, and complications.

Results A total of 12 studies (6 RCTs and 6 CCSs), with a total of 1824 patients, were analysed. LHP resulted in reduced postoperative pain for the first day (mean difference of 2.07 visual analogue scale units), week, and month. The mean dosage and duration of postoperative analgesia use was similarly lower, with a mean difference of 4.88 mg (morphine) and 2.25 days, respectively. Crucially, recurrence was equivocal (HR: 0.72, CI: 0.21–2.40) at a mean follow-up duration of 8.58 ± 9.55 months. LHP resulted in lower blood loss and was 12.74 min shorter on average. LHP's postoperative recovery time was 9.03 days less with equivalent or decreased risk of most short- and moderate-term complications except anal thrombosis.

Conclusion Our study suggests that LHP is more tolerable than CoH, providing patients with superior postoperative quality of life at equivalent moderate-term efficacy. These findings contribute to improved understanding of LHP and its potential at enhancing the quality of HD care.

The Hemorrhoid Laser Procedure Technique vs Rubber Band Ligation: A Randomized Trial Comparing 2 Mini-invasive Treatments for Second- and Third-degree Hemorrhoids

Paolo Giamundo, M.D.¹ • Raffaele Salfi, M.D.² • Maria Geraci, M.D.¹
Livio Tibaldi, M.D.¹ • Luisa Murru, M.D.² • Marco Valente, M.D.¹

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BACKGROUND: Hemorrhoid laser procedure is a new laser procedure for outpatient treatment of hemorrhoids in which hemorrhoidal arterial flow feeding the hemorrhoidal plexus is stopped by means of Doppler-guided laser coagulation.

OBJECTIVE: Our aim was to compare the hemorrhoid laser procedure with rubber band ligation for outpatient treatment of symptomatic hemorrhoids with moderate mucosal prolapse.

DESIGN: This was a randomized controlled trial with balanced allocation to hemorrhoid laser procedure or rubber band ligation, with stratification by study center.

SETTING: This study was conducted at 2 teaching hospitals in Italy.

PATIENTS: Patients with symptomatic grade II or grade III hemorrhoids with minimal mucosal prolapse were eligible for the study.

INTERVENTIONS: In the hemorrhoid laser procedure operation, a Doppler probe was inserted into the anal canal through a dedicated disposable proctoscope to identify the terminal branches of superior hemorrhoidal

arteries approximately 3 cm above the dentate line. Five pulsed laser shots were delivered to each identified artery through the proctoscope to close the terminal branches. The procedure was repeated for each artery through clockwise rotation of the proctoscope. Absence of a Doppler signal after treatment confirmed arterial coagulation. Rubber band ligation was performed by positioning rubber bands at the base of left lateral, right anterior, and right posterior piles. No anesthesia was given for either technique.

MAIN OUTCOME MEASURES: Operative time, complications, postoperative pain (visual analog scale), postoperative downgrading of hemorrhoids, resolution of symptoms, and quality of life were evaluated.

RESULTS: A total of 60 patients (35 women, 25 men; mean age, 46 years) entered the trial and were analyzed. No significant differences between rubber band ligation and hemorrhoid laser procedure were observed in operative time or intraoperative morbidity. The median postoperative pain score was 2.9 (range, 1–5) with rubber band ligation vs 1.1 (range, 0–2) for hemorrhoid laser procedure ($P < .001$). At 6 months, resolution of symptoms was observed in 16 patients (53%) with ligation vs 27 (90%) with hemorrhoid laser procedure ($P < .001$), and reduction of hemorrhoids by at least 1 grade was observed in 12 patients (40%) with ligation vs 24 (80%) with hemorrhoid laser procedure ($P < .001$). Significantly higher quality of life was seen in the hemorrhoid laser procedure group ($P = .002$).

LIMITATIONS: Follow-up was not longer than 1 year (median, 6 mo).

CONCLUSIONS: Despite higher cost, the hemorrhoid laser procedure technique was more effective than rubber

Financial Disclosure: Dr. Salfi is coholder of a patent on the nonexcisional hemorrhoid laser procedure described in this report but has no commercial interests related to the manufacturer.

Presented at the meeting of The American Society of Colon and Rectal Surgeons, Minneapolis, MN, May 15 to 19, 2010.

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Thank you!

