

Doppler Guided Hemorrhoidal Artery Ligation and Recto Anal Repair Procedures

**What is (DG) HAL/RAR?
Results, Benefits, & Risks
Procedure Time
Pre and Post Procedure
Grade 1 to 4 Hemorrhoids
(DG) HAL/RAR® System
A.M.I. HAL Method
A.M.I. RAR Method
HAL/RAR Publications**

How can (DG) HAL/RAR® help me?

A product of A.M.I. (Agency for Medical Innovations) is the (DG) HAL/RAR® System. It is the first system to utilize minimally invasive surgical techniques to treat the source of hemorrhoidal disease without surgical excision, stapling or banding. It is a single system that offers two procedure options, (DG) HAL (Doppler Guided Hemorrhoidal Artery Ligation) and (DG) RAR (Doppler Guided Recto Anal Repair Proctoplasty).

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How many patients have been treated and what are the results?

Available to patients since 2001, the procedures have been successfully performed on tens of thousands of patients worldwide. Physicians report an institutional success rate of 93-96% in treating patients with [grades II to IV disease](#). Complication rates are very low, and any complications that do occur, such as minor bleeding, thrombosis, and defecation pain, are very manageable.

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How long does the procedure take, will I be hospitalized, and when can I go back to work?

The procedure can take as little as twenty minutes and patients usually leave the same day. Most patients experience only minor pain and discomfort, and return to work the next day.

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What kind of care will I need before, during, and after the procedure? What medications will the doctor prescribe?

Discuss this in-depth with your physician as your age, weight, and physical condition will influence how you are medicated and managed during and after the procedure. Your surgeon may opt to forgo general anesthesia for conscious sedation. Again, you should discuss these options with your doctor. Results are variable but post-procedural pain medications are usually minimal and for limited duration.

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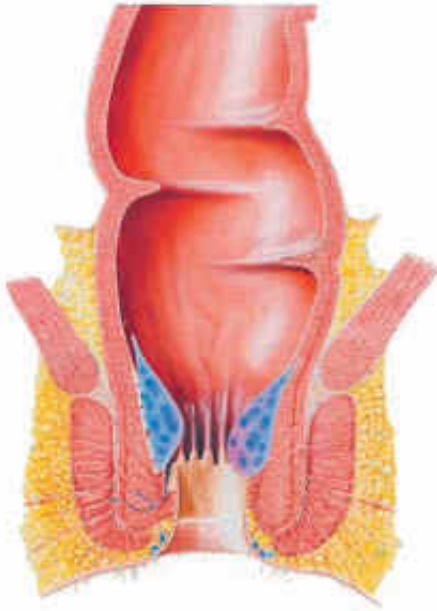
Grade 1 Through 4 Hemorrhoid Prolapse

Grade 1 Prolapse

Hemorrhoid protrudes into the anal canal but does not prolapse outside the anus

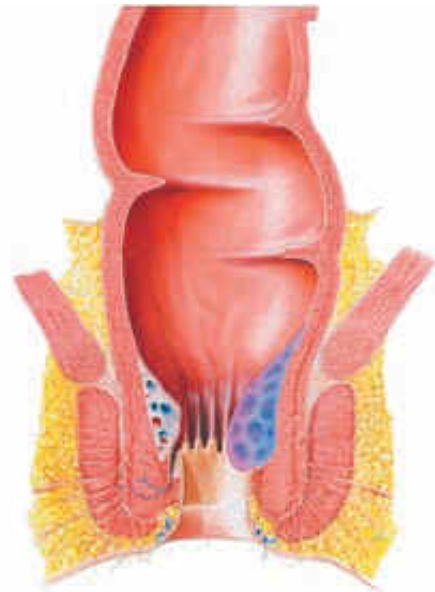
Grade 2 Prolapse

Hemorrhoid protrudes through the anus during straining or evacuation but returns spontaneously.



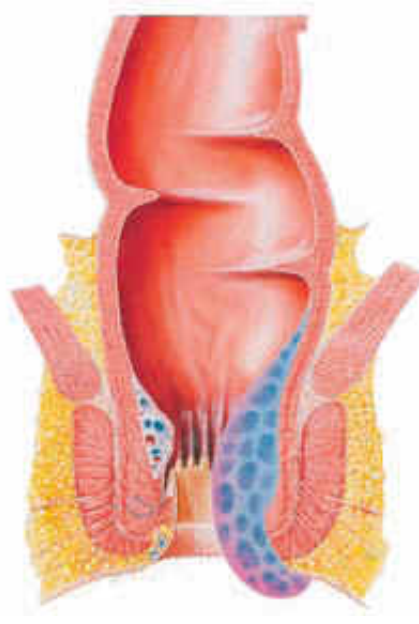
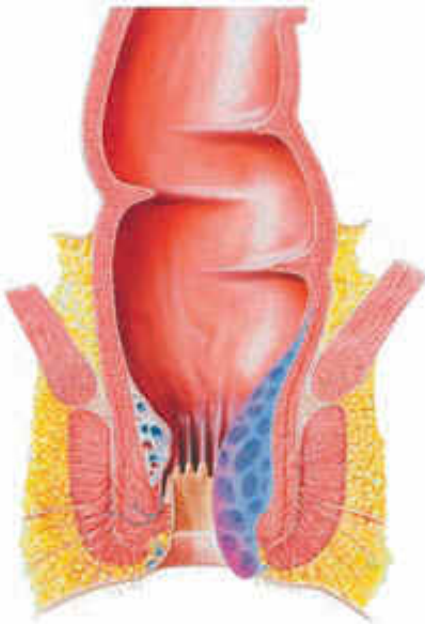
Grade 3 Prolapse

Hemorrhoid protrudes through the anus during straining or evacuation but needs to be manually returned to position



Grade 4 Prolapse

Hemorrhoid remains prolapsed outside the anus



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A.M.I. (DG) HAL/RAR® System

The (DG) HAL/RAR® System is the first system to utilize minimally invasive surgical techniques to treat the source of hemorrhoidal disease without surgical excision, stapling or banding. It is a singlesystem that offers two procedure options, (Doppler Guided) Hemorrhoidal Artery Ligation and Recto Anal Repair (Proctoplasty).

Features and Benefits:

Good control

- * Rapid identification of terminal branches of superior hemorrhoidal artery
- * Precise, accurate ligation
- * Immediate confirmation

Minimal discomfort

- * Minimally invasive surgery
- * Ligation sutures are placed 2-3 cm above dentate line
- * General or MAC sedation

High success rate

- * 90% or greater success rate
- * No major complications reported
- * Ratio of inflow to outflow drops significantly

HAL Doppler II System

Minimally-invasive treatment for lower grades of hemorrhoids.



Features and Benefits:

- Displays identified artery depth.
- Displays blood flow velocity in identified arteries.
- New: A built in printer generates a protocol on the number, position and depth of ligated arteries.
- Recto Anal Repair (RAR®) Proctoplasty (Mucopexy)

A mucopexy can be performed through the window of the (DG) HAL proctoscope to treat grades III and IV hemorrhoids.



Features and Benefits:

- No resection of mucosal tissue
- No severe complications reported

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A.M.I. HAL Method



The HAL Method - Doppler Guided Hemorrhoidal Artery Ligation Procedure

1. The patient is positioned in Lateral Recumbent or in a Lithotomy Position.
2. Ultra Sound Gel is put on the A.M.I. HAL-Doppler Proctoscope before it is fully trans-anally inserted and slowly/gently turned until a typical Doppler sound of arterial blood flow can be heard.
3. The identified arteries are ligated in a distance 3 to 4 cm proximal to the Dentate Line through the ligation window of the A.M.I. HAL-Doppler Proctoscope, thus reducing the blood inflow to the inner hemorrhoidal plexus.

Good control

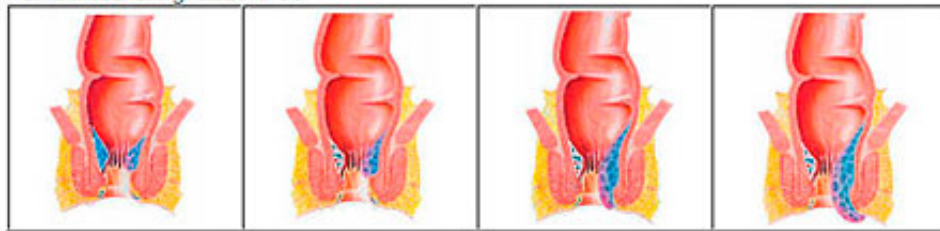
- Rapid identification of terminal branches of superior hemorrhoidal artery
- Precise, accurate ligation
- Immediate confirmation
- Minimum discomfort



- Minimally invasive surgery
- Ligation sutures are placed 2-3 cm above dentate line
- General or MAC (Monitored Anesthesia Care) sedation
- High success rate
- 90% or greater success rate
- No major complications reported
- Ratio of inflow to outflow drops significantly



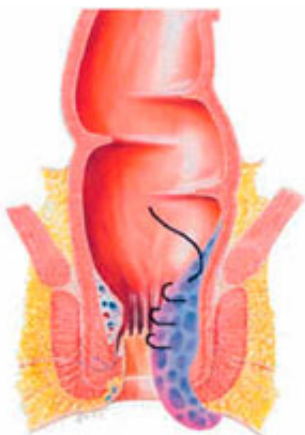
Performed on grades I-IV



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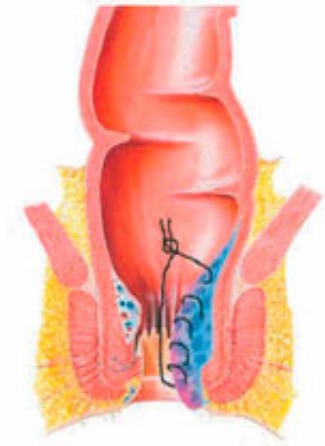
A.M.I. RAR Method



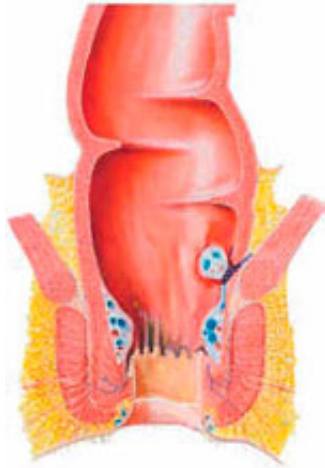
The (DG) RAR Method – Doppler Guided Recto Anal Repair Proctoplasty (Mucopexy) Procedure

1. First, a running stitch is made from the top to the bottom. The device is so designed that only the prolapsing tissue is caught by the needle.
2. The ends of the thread are pulled together and knotted at the top. This has the effect of lifting up the hemorrhoids that are hanging down.
3. With this “lifting”, the hemorrhoids are back where they belong. The tissue scars over and integrates “seamlessly” back into the anal tissue. The stitches are placed not in the anus but in the lower rectum, where there are almost no pain nerves. Patients report little discomfort or pain associated with these procedures.

Patient Satisfaction



- “93.75% of patients would recommend treatment with (DG) HAL/RAR® to a friend because of the level of pain and effectiveness”
- “91% of patients would ask for HAL treatment if necessary”
- Recovery normally takes just one to three days



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