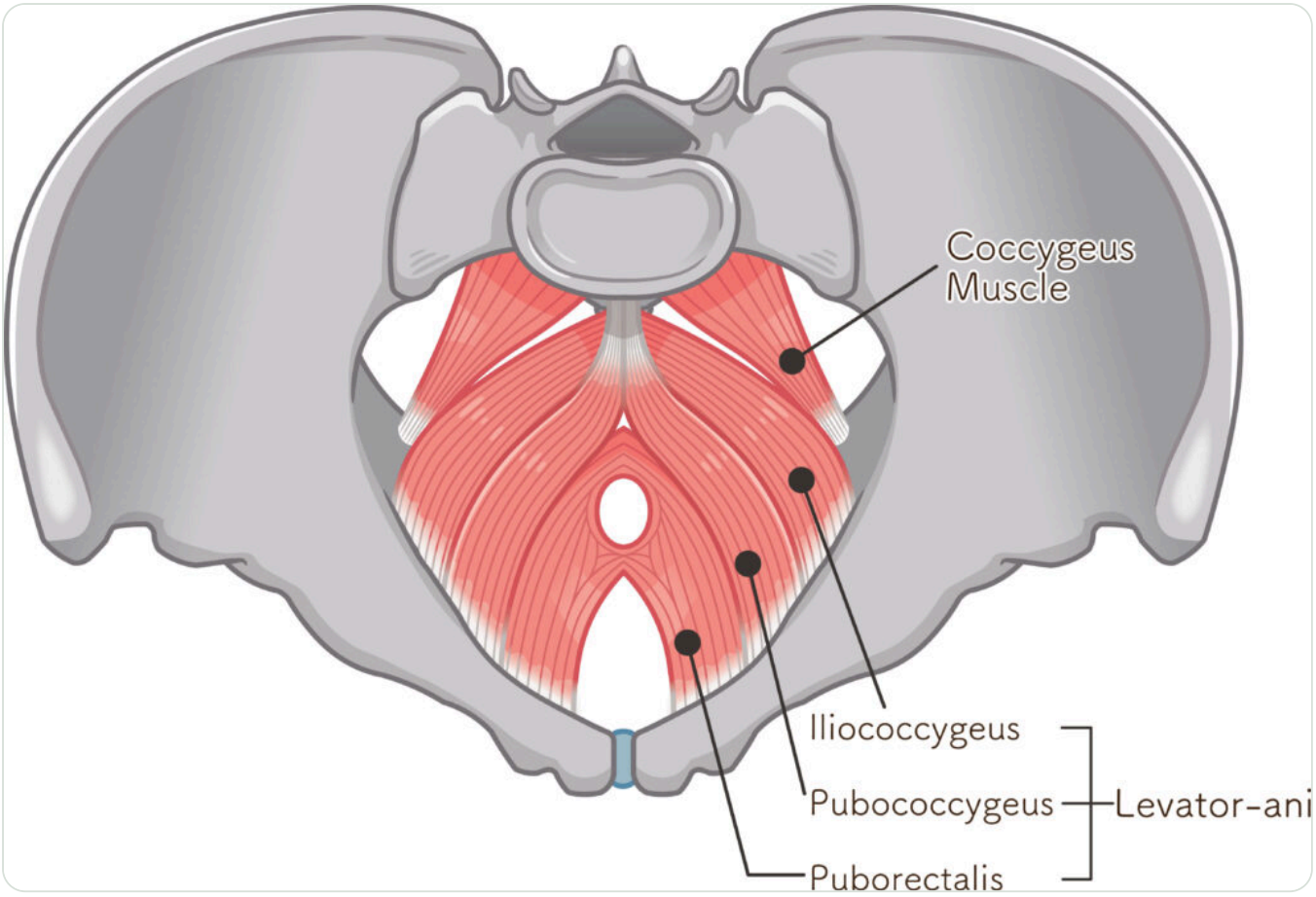
Levator Ani Syndrome: When pelvic floor muscles cause pain



chronic pain at the anus

Are you experiencing a constant feeling of heaviness or a dull, aching pain in the pelvic floor? **Levator Ani Syndrome** is a frequent cause of chronic **pain near the rectum**, but since the symptoms can resemble other conditions, a correct diagnosis and a thorough **bowel examination** are crucial.

What is Levator Ani Syndrome?

The levator ani is the large muscle group that forms the floor of the pelvis. In this syndrome, chronic tension or spasms occur in the muscles, resulting in pain that is often described as:

- A sensation of a "golf ball" in the rectum.

- A dull pain that worsens when sitting down for long periods.
- Pain that can last for hours or days.

Differential Diagnoses: What else could it be?

When we examine patients at Kirurgen.dk, our most important task is to distinguish Levator Ani Syndrome from other conditions. We do this by looking at the nature and duration of the pain.

1. Proctalgia Fugax (Short-term cramps)

While Levator Ani involves long-lasting pain, **Proctalgia Fugax** is characterised by sudden, intense cramping episodes.

- **Pain character:** Lightning-fast, sharp stabs.
- **Duration:** Lasts from a few seconds to a maximum of 30 minutes.
- **Distinction:** If your pain disappears completely between episodes and typically occurs at night, it is likely Proctalgia Fugax.

2. Pudendal Neuralgia (Nerve pain)

In this case, the pain is caused by irritation of the *pudendal nerve* rather than the muscle itself.

- **Pain character:** Burning, electric, or stabbing pain that often radiates towards the genitals.
- **Distinction:** Pain from pudendal neuralgia almost always disappears when sitting on a toilet seat (because the pressure on the nerve is relieved), whereas Levator Ani pain is often unchanged or worse in this position.

3. Colorectal Cancer (Serious causes)

Many patients rightly fear that pain in this area could be caused by **colorectal cancer**.

- **Distinction:** Cancer of the rectum rarely presents with pain as the only symptom. We look for "red flags" such as blood in the stool, unexplained weight loss, or changed bowel habits. To rule this out with 100% certainty, we often recommend a **colonoscopy**.

How do we distinguish between the diagnoses clinically?

To provide you with the best course of treatment, we perform a series of examinations:

1. **Digital Palpation (Finger examination):** This is the most important test for Levator Ani Syndrome. If the doctor feels a tight, tender muscle (often on the left side) that provokes your familiar pain upon pressure, it confirms the diagnosis.
2. **Endoscopic examination (Anoscopy/Proctoscopy):** We look for local causes such as anal fissures or haemorrhoids that could trigger the muscle spasms.
3. **Colonoscopy:** If there is the slightest suspicion of structural changes or **colorectal cancer**, we perform a **colonoscopy**. It is the most reliable **bowel examination** for inspecting the entire large intestine and ensuring peace of mind.

Overview for quick distinction

Diagnosis	Pain Duration	Pain Character	Typical Sign
Levator Ani Syndrome	Hours/Days	Dull, aching	Tenderness when pressing on the pelvic floor muscle
Proctalgia Fugax	Seconds/Minutes	Cramp-like, acute	Disappears quickly on its own
Pudendal Neuralgia	Constant (when sitting)	Burning, electric	Relieved by standing up or sitting on a toilet
Serious illness	Progressive	Variable	Requires **colonoscopy** for exclusion

Here is a comparison between Pudendal Neuralgia and Levator Ani Syndrome based on clinical guidelines.

Feature	Pudendal Neuralgia (PN)	Levator Ani Syndrome (LAS)
Primary cause	Irritation or entrapment of the *pudendal nerve*.	Spasms or chronic tension in the *levator ani* muscle.
Pain character	Burning, electric, stabbing, or a "foreign body sensation" (e.g., a golf ball in the rectum).	Dull, aching pain or a feeling of heaviness/pressure in the pelvis.
Pain area	The distribution area of the nerve: Perineum, genitals, and anus.	Typically located in the anus and the lower part of the rectum.
Sitting position	**Worse when sitting**; often relieved by standing up or sitting on a toilet seat (where there is no direct pressure on the nerve).	Can also be worsened by sitting, but is often more constant or fluctuating independent of position.
Diagnosis	Often based on the "Nantes criteria" and relief from a diagnostic nerve block.	Based on the "Rome criteria", including pain lasting over 30 min and tenderness on palpation of the levator muscle.

Treatment of Levator Ani Syndrome

The treatment of LAS is multimodal and aimed at relieving muscle pain and pelvic floor dysfunction. Surgical intervention is rarely necessary and is typically reserved for severe, refractory cases. Conservative treatment is the first choice.

A. First-line Treatment: Conservative and Physiotherapy

The most effective approach focuses on **relaxing** the levator ani muscle:

1. Physiotherapy and Pelvic Floor Training

- **Biofeedback:** This is a cornerstone of treatment. A probe is placed in the rectum to measure muscle activity. The patient is trained to identify and consciously relax (instead of contracting) the levator ani muscle. Studies have shown high success rates with biofeedback.
- **Manual techniques:** Specialised physiotherapists can apply manual massage and stretching (trigger-point release) of the tense muscle to relieve spasms.

2. Warm Sitz Bath

- Sitting in a warm bath for 15-20 minutes several times daily can help reduce muscle spasms and increase blood flow in the pelvic floor.

B. Pharmacological Treatment

Pharmacotherapy is used to manage pain and muscle spasms.

- **Muscle relaxants:** Diazepam (in low doses) or cyclobenzaprine may be attempted to reduce muscle spasms.
- **Topical agents:** Certain ointments, such as nitroglycerin or calcium channel blockers used for anal fissures, may have an effect by increasing blood flow and relaxing smooth muscle, although evidence for LAS is limited.
- **Neuropathic pain treatments:** Tricyclic antidepressants (e.g., amitriptyline) or gabapentinoids can be effective in treating chronic pain involving nerves.

C. Injection Therapy

If conservative treatment fails, injections may be considered:

- **Botulinum Toxin (Botox) Injection:** Injection of Botulinum toxin directly into the tense levator ani muscle is a promising but invasive option. Botox blocks the release of acetylcholine, resulting in **temporary muscle paralysis** and thus relaxation. This can provide the patient with a pain-free period during which the pelvic floor can be rehabilitated.

D. Electrical Stimulation

- **Electrogalvanic Stimulation (EGS):** An electrode is placed in the rectum and delivers a low-voltage current. The aim is to tire the muscle (through continuous stimulation) and thereby force it to relax. Some studies suggest that EGS can be as effective as biofeedback.

E. Surgical Intervention

Transcutaneous Neuromodulation or Spinal Cord Stimulation (SCS): In very rare and refractory cases where the pain is disabling and no other treatment has worked, more advanced neuromodulation methods may be considered, although this is extremely rare and requires a multidisciplinary team.

3. Conclusion for Patients

Levator Ani Syndrome is a benign but bothersome condition. It is crucial to have a thorough differential diagnosis performed by a specialist (surgeon or gastroenterologist) to rule out other causes of rectal pain. Treatment is primarily conservative. **Pelvic floor physiotherapy** with biofeedback often represents the most successful path to long-term relief by restoring the normal function of the levator ani muscle.

References (Pubmed-based)

1. **Rao, S. S. et al. (2009).** *Biofeedback is superior to electrogalvanic stimulation and massage for treatment of levator ani syndrome.* **Gastroenterology**, 137(3), 869-875. [PMID: 20044997] (Supports Biofeedback as the most effective conservative treatment, as well as the effect of EGS and massage).
2. **Heah, S. M. et al. (1997).** *Biofeedback is effective treatment for levator ani syndrome.* **Dis Colon Rectum**, 40(2), 187-189. [PMID: 9075755] (Further evidence of biofeedback's effectiveness in pain relief).
3. **Mishra, R. K. et al. (2014).** *Botulinum toxin A in the treatment of chronic functional anorectal pain: experiences of a tertiary referral proctology clinic.* **Int J Colorectal Dis**, 34(3), 565-570. [PMID: 30778784] (Describes Botulinum toxin A (Botox) as an effective option in cases not responding to conservative treatment by relaxing the tense musculature).

4. **Hite, M., & Curran, T. (2021).** *Biofeedback for Pelvic Floor Disorders.* **Clin Colon Rectal Surg**, 34(1), 56-61. [PMID: 33536850] (Provides a broader overview of biofeedback's role in pelvic floor disorders and Levator Ani Syndrome).
5. **Labat JJ, Riant T, Robert R, Amarenco G, Lefaucheur JP, Rigaud J.** Diagnostic criteria for pudendal neuralgia (Nantes criteria). *Neurourol Urodyn*. 2008;27(4):306-10. doi: 10.1002/nau.20505. PMID: 17823944.
6. **Kaur J, Singh P.** Pudendal Neuralgia. [Updated 2023 Aug 21]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK544272/ PMID: 31335043.
7. **Bharucha AE, Trabuco E.** Functional Anorectal Disorders. *Gastroenterology*. 2016;150(6):1431-42. doi: 10.1053/j.gastro.2016.02.046. PMID: 27144630.
8. **Itza F, Zarza D, Serra L, Gómez-Sancha F, Salinas J, Allona-Almagro A.** Pudendal nerve entrapment as source of intractable perineal pain: diagnosis and treatment. *Actas Urol Esp*. 2010;34(6):500-6. PMID: 20113645.
9. **Beco J, Seidel L, Albert A.** Pudendal nerve decompression in perineology: a case series. *BMC Surg*. 2015;15:116. doi: 10.1186/s12893-015-0099-5. PMID: 26514704.
10. **Engeler DS, Baranowski AP, Borovicka J, et al.** EAU guidelines on chronic pelvic pain. *Eur Urol*. 2013;64(3):431-9. doi: 10.1016/j.eururo.2013.03.032. PMID: 23414954.