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When the brain misinterprets the gut: centrally mediated abdominal pain

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Abstract

What happens when your intestines are physically flawless, your gut motility is completely normal, but you are still plagued by constant, severe abdominal pain? This is the reality for patients with **Centrally Mediated Disorders of Gastrointestinal Pain** - a stand-alone **Rome V** category in which the pain is generated and amplified inside the central nervous system [1, 2].

The faulty amplifier

In IBS, pain is typically triggered by eating or bowel movements. Centrally mediated pain is fundamentally different: it is **continuous or frequently recurring**, unlinked to digestion and deeply exhausting [2].

Think of your central nervous system as a guitar amplifier. In a healthy body, the volume knob for gut sensations is turned down to a quiet baseline. In centrally mediated disorders, the volume knob is cranked up to ten - and normal background noise from the abdomen is interpreted as severe, sharp or burning pain [2].

Conditions in this category

- **Centrally mediated abdominal pain syndrome (CAPS):** constant or near-constant abdominal pain rarely relieved by bowel function and causing significant disruption to daily life [2].
- **Narcotic bowel syndrome (opioid-induced GI hyperalgesia):** a paradoxical condition where high doses of opioid pain medication actually **worsen** chronic abdominal pain over time by hyper-sensitising the central nervous system [2].

How do we fix the amplifier?

Because the primary issue lives in the brain and spinal cord - not the gut lining - traditional digestive remedies like laxatives or antacids are ineffective [2]. The gold-standard approach includes [1, 2]:

- **Central neuromodulators** (tricyclic antidepressants, SNRIs, gabapentinoids) that gently re-tune nerve pathways.
- **Behavioural therapies** targeting brain pain-processing centres (CBT, gut-directed hypnotherapy, mindfulness).
- **Gradual opioid taper** in narcotic bowel syndrome.

Work-up at Kirurgen.dk

We rule out organic disease with colonoscopy, gastroscopy and targeted imaging before making a positive diagnosis. Continue the DGBI series: Bowel DGBIs, Anorectal DGBIs, Gallbladder & Oddi disorders.

References

1. **Rome Foundation. Rome V Diagnostic Criteria for Disorders of Gut-Brain Interaction.** Drossman DA, Tack J, Chang L et al. (eds.), 2026 update.
2. **Keefer L, Drossman DA, Guthrie E et al.** *Centrally Mediated Disorders of Gastrointestinal Pain.* Rome IV/V chapter on CAPS, narcotic bowel syndrome and the use of central neuromodulators. Gastroenterology - consensus article.