

Laxative Abuse — Causes, Symptoms and Treatment

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Laxatives are an effective treatment for occasional constipation, but laxative abuse and misuse is very common and can damage the intestines and lead to malabsorption and dehydration. Individuals abuse laxatives for a variety of reasons including weight loss (the most common form of laxative abuse), as a method to improve health, and as a part of a factitious disorder. There are gross and histological changes to the intestines that are usually reversible. Treatment consists of laxative sensation and treating the underlying condition.



Definition of Laxative Abuse

Laxative abuse describes the **chronic overuse of laxatives for purposes other than relieving constipation.**

Epidemiology of Laxative Abuse

Spread of laxative abuse

About **4 % of the general population** abuse laxatives. Higher rates of abuse are found with eating disorders.

Etiology of Laxative Abuse

Causes of laxative abuse

Laxative abuse is defined as using laxatives for purposes other than to relieve constipation. Constipation is medically defined as having less than three bowel movements per week, any number above this is within the range of normal and should not be treated. They are frequently **abused to lose weight**, regulate bowel movements, or in the mental illness of **factitious disorder**.



Image: "Constipation in a young child as seen on X-ray" by James Heilman, MD. License: [CC-BY 3.0](https://creativecommons.org/licenses/by/3.0/)

Many different people try to lose weight with laxatives. People suffering from **anorexia or bulimia** frequently use excess amounts of laxatives. Also, collegiate athletes, especially wrestlers, will use them to **reach a weight goal**. Patients suffering from factitious disorder will use laxatives to develop **diarrhea** and appear ill and receive sympathy and attention from the medical community, friends, and family. This is called **tertiary gain**.

Prolonged laxative use may be appropriate under some circumstances. **Constipation** is a very common condition in the developed world. Approximately 50 % of the elderly suffer from constipation and require long term treatment which may include prolonged laxative treatment.

Pathology and Pathophysiology of Laxative Abuse

There are many types of laxatives, each with unique mechanisms of action. Oral administration requires several hours to take effect while suppositories work faster (about an hour).

- **Emollients:** Also known as stool softeners. These laxatives act as surfactants

to increase the moisture of the stool, easing it through the intestine at a faster rate

- **Lubricant:** Different oils, such as mineral oil and castor oil coat the intestinal mucosa and prevent water absorption. This increases the moisture content of the stool
- **Hyperosmotic agents and saline laxatives:** These substances are not absorbed by the [GI tract](#). They absorb available water in the lumen to increase the moisture content of the stool
- **Stimulants:** These are strong laxatives that stimulate intestinal nerves to increase peristaltic action. Excess use of these laxatives may result in changes to the GI tract

Symptoms of Laxative Abuse

Signs of laxative abuse

Laxative abuse **may present without symptoms**. The underlying drive to abuse laxatives may present first such as an eating disorder or factitious disorder. Signs and symptoms of abuse and misuse include **alternating diarrhea and constipation**.

Diagnosis of Laxative Abuse

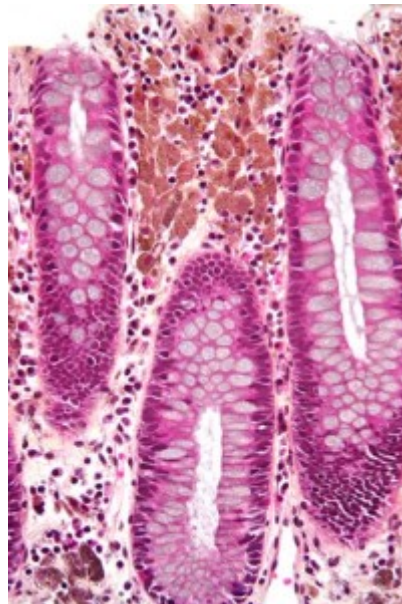


Image: "High magnification micrograph of melanosis coli (MC), also pseudomelanosis coli (PMC). Colonic biopsy. HPS stain." by Nephron. License: [CC BY-SA 3.0](#)

Laxative diagnosis requires careful analysis of the history and physical for patterns.

Pseudomelanosis coli is a finding on colonoscopy or biopsy that may indicate prolonged laxative use, especially the plant-derived anthraquinone type. Overuse of this type of laxative results in mucosal damage and apoptosis of the most superficial cells in the gut. **Cell debris is collected by macrophages which result in brown, lipofuscin staining of the large intestine walls.**

Differential Diagnoses of Laxative Abuse

Clinical pictures similar to laxative abuse

- [Irritable bowel syndrome](#)
- [Carcinoid tumor](#)
- Protozoa infection
- [Bacterial overgrowth syndrome](#)

All of these conditions involve a patient complaining of diarrhea. Careful evaluation of the patient's history and physical may provide evidence to direct you towards the diagnosis of laxative abuse.

Therapy of Laxative Abuse

Treatment of laxative abuse

The most effective treatments of laxative abuse are to **treat the underlying condition**, **educating the patient**, and encouraging the cessation of the laxatives. Treating eating disorders and factitious disorders requires psychotherapy (cognitive-behavioral or family therapy).

Progression and Prognosis of Laxative Abuse

Excessive use of laxatives can result in many complications depending on the severity of abuse. **Nutrient and electrolyte absorption is reduced** as transit times through the small and [large intestines](#) are reduced. This may result in **hypokalemia** and **metabolic acidosis**. There are high concentrations of potassium and bicarbonate in GI secretions that are not reabsorbed properly with laxative use. Minor hypokalemia results in muscle weakness and paralysis while a severe case may result in cardiovascular and renal complications.

Most complications associated with laxative abuse, including pseudomelanosis coli, loss of large intestine haustra, hypokalemia, and metabolic acidosis, are reversible with cessation of laxative use.

Review Questions

The correct answers can be found below the references.

1. Which is an example of laxative abuse?

- A. To relieve constipation
- B. To prepare for a colonoscopy
- C. To lose weight

2. Which electrolytes are expected to be low in patients who chronically abuse laxatives?

- A. Hyponatremia
- B. Metabolic alkalosis
- C. Hyperkalemia
- D. Hypokalemia

3. What histological changes are expected in the colon with laxative abuse?

- A. Mucosal staining due to an accumulation of melanin
- B. Mucosal staining due to an accumulation of lipofuscin
- C. Mucosal sloughing
- D. Intimal hypertrophy

References

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Correct answers: 1C, 2D, 3B

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