



# Gastrointestinal System - Disorders

## Melena Stool

### What is it?

Melena stool is used to refer to feces that may appear dark black, tarry, and are often very odorous due to blood. The dark black color and odor come from the breakdown of hemoglobin by digestive enzymes found in the GI tract.

Approximately 100-200mL of upper GI blood is required for melena stool to present.

### Causes

Melena stool originates from upper GI bleeding – Causes of upper GI bleeds include:

- Peptic ulcers
- Tumors involving the esophagus, stomach, or small intestine
- Blood conditions such as thrombocytopenia (low platelets), or hemophilia (genetic clotting deficiency)
- Esophageal varices (extremely dilated veins usually due to portal hypertension)
- Gastritis (inflammation in the stomach)
- Some rare congenital defects that may also cause GI bleeds.

### “False positives”

Iron supplements may cause grayish-black or dark greenish stools and should be differentiated from melena stool. Medications like Pepto-Bismol, some antacids, food containing blood (blood pudding, Maasai diet), or excessive blood swallowed after a nose bleed can also create a false positive melena stool. Fecal occult tests can determine the presence of blood.

### Blood through the GI tract

It takes approximately 14 hours for hemoglobin to break down in the GI tract. Combine that with the knowledge that it takes roughly 24-72 hours for food to pass through the healthy adult's digestive system and it starts to make sense why melena is associated with upper GI bleeding.

### Differentiating GI bleeds

Blood that is **bright red** or a **maroon** color in stool is known as **hematochezia**. This type of stool usually indicates a lower GI bleed. The reason for the brighter color is that the hemoglobin has not yet had time to break down.

Vigorous upper GI bleeds with fast transit through the intestines can also present as hematochezia in some cases; differentiation is required.

### Assessment

#### History:

When a patient presents with melena stools a GI history should be taken. Questions might include but are not limited to:

- *Recent travel?*
- *Amount and color of blood passed?*
- *Clots in the stool?*
- *Abnormal weight loss?*
- *Easy bleeding or bruising?*
- *Symptoms of anemia?*
- *Past medical history of GI/liver issues (PMHx)?*

#### Physical Exam:

Vital signs – BP drop of >10mmHg systolic or more from baseline, or HR change of >10bpm from baseline are indicative of a moderate volume of blood loss.



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## Assessment - continued

### Severe signs and symptoms

The following symptoms are red flags for a severe GI bleed that needs emergency attention:

- Syncope (fainting)
- Hypotension (low BP)
- Pallor (pale color of skin)
- Diaphoresis (profuse sweating)
- Tachycardia (rapid heart rate)
- S/S of anemia

These symptoms may indicate that the patient is suffering from hypovolemia or hemorrhagic shock.

### Diagnosis of Gastrointestinal bleed related to Melena stool

Patients may experience few symptoms but in extreme cases may be hypotensive and anemic.

If a patient presents with melena stool they may be booked for an endoscopy (melena stool = upper GI bleed) to determine the location of a bleed.

If hematochezia is present the patient will may be booked for a colonoscopy. A definitive test would be an angiogram (diagnostic imaging using dye) but is far rarer than a colonoscopy.

### Self Resolving Bleeding

Around 80% of patients stop bleeding with no interventions required. For others an endoscopic technique may be used to fix the bleed.

### Coffee Ground Emesis

Emesis (vomit) that looks like it contains coffee grounds is often indicative of a ruptured esophageal varices

### Treatment

Treatment of melena stool focuses on treating the symptoms and source of the GI bleed.

Airway – If the source of the upper GI bleed is a ruptured esophageal varices or a gastric bleed an anti-emetic (anti-nausea) may be given to reduce nausea and vomiting and keep the airway secure.

Fluids – Normal saline is usually given to replace any fluid lost. Blood products may be required in more severe cases if the patient is suffering from anemia related to blood loss.

Medications – Medications to reduce gastric acid secretion may be given to help control pain and reduce further inflammation. Anti-emetic medication may be given to reduce nausea and vomiting.

Endoscopic Intervention – In cases where the bleed does not resolve on it's own the patient may be booked for an endoscopic intervention where the source of the bleeding is repaired.