

Lower GI Bleed

Bleeding from anywhere in the gut below the ligament of Treitz (the first bend of the small intestine, right past the stomach).

THE STORY IN ONE SENTENCE

Bleeding from anywhere in the gut below the ligament of Treitz (the first bend of the small intestine, right past the stomach).

“Lower GI bleed means bleeding from below the first part of the small intestine — most stop on their own, but you must rule out that the blood is actually coming from higher up and then find the source.”

Normal anatomy — the body's job

The colon and lower small intestine are supplied by branches of the superior mesenteric artery (feeding the right colon and small bowel) and the inferior mesenteric artery (feeding the left colon and rectum). These arteries split into smaller and smaller vessels that deliver oxygen-rich blood to the gut wall. The rectal veins drain blood back through two routes: the superior rectal vein into the portal system (toward the liver) and the middle and inferior rectal veins into the systemic circulation (toward the heart). This dual drainage is why bleeding from higher up can sometimes look like it is coming from below.

BODY'S JOB

The intestinal blood vessels deliver oxygen and nutrients to the gut wall so it can absorb food, move waste along, and heal itself. The mucosa (the inner lining) is constantly renewing, and the vessels must stay intact to avoid leaking blood into the intestinal space.

1. Blood leaves the heart through the aorta (the body's main artery).
2. The superior mesenteric artery branches off the aorta and feeds the small intestine and right colon.
3. The inferior mesenteric artery branches off lower and feeds the left colon, sigmoid colon, and upper rectum.
4. Tiny arterioles and capillaries in the gut wall deliver oxygen and nutrients to the mucosa and muscle layers.

5. Venous blood drains back through the superior and inferior mesenteric veins into the portal vein (which goes to the liver), and from the lower rectum through the middle and inferior rectal veins into the systemic veins (which go to the heart).
6. When any vessel in this network breaks or leaks, blood enters the intestinal lumen (the hollow inside tube) and mixes with stool, appearing as red or dark blood in the toilet or on toilet paper.

What breaks

Usually one specific structure in the lower gut starts bleeding: a pouch (diverticulum) that bulges out from the colon wall and tears a vessel, a tangle of fragile blood vessels (angiodysplasia) that leaks, a stretch of colon that lost its blood supply (ischemic colitis), an infection inflaming the lining (infectious colitis), an inflammatory condition flaring up (ulcerative colitis or Crohn disease), a polyp or cancer that erodes through vessels, or (in about 15 percent of cases) brisk bleeding from the upper GI tract (stomach or duodenum) moving so fast through the gut that it looks like a lower bleed.

CLINICAL TERM

Diverticulosis (outpouchings of the colon wall, most common cause in older adults), angiodysplasia (abnormal, dilated submucosal vessels, second most common in older adults), blood-starved (ischemic) colitis (watershed areas like the splenic flexure losing blood flow), infectious colitis (Salmonella, Shigella, Campylobacter, E. coli O157, C. difficile), inflammatory bowel disease (ulcerative colitis or Crohn colitis), colorectal polyps or adenocarcinoma, post-polypectomy bleeding, hemorrhoids or anal fissures (usually minor, but can be brisk), blood-starved colitis from low flow states or traveling clots (emboli), or upper GI source with rapid transit presenting as bright red blood in the stool (hematochezia).

How the body compensates

When blood leaks into the colon, the body tries to keep the brain and heart fed by speeding up the heart, squeezing blood vessels in the skin and gut, and holding onto water and salt through the kidneys. These moves can keep blood pressure normal for a while, even as blood volume drops — the dangerous middle zone where vital signs look okay but the body is one step from collapse.

1. {'what': 'The baroreceptors (pressure sensors in the carotid arteries and aortic arch) detect falling blood volume and signal the brainstem.', 'why': 'The brainstem activates the sympathetic nervous system, which releases norepinephrine (a chemical messenger that speeds the heart and tightens blood vessels).'}.

2. {'what': 'Heart rate rises (tachycardia), often to 100 or higher.', 'why': 'The body is trying to pump the remaining blood faster to keep oxygen delivery steady to the brain and heart.'}
3. {'what': 'Blood vessels in the skin, gut, and kidneys constrict (tighten).', 'why': 'Shunting blood away from less vital areas to keep pressure up in the core circulation; this is why the skin may feel cool and clammy.'}
4. {'what': 'The kidneys release renin, which triggers aldosterone (a hormone that holds onto salt and water) and ADH (antidiuretic hormone, which makes the kidneys reabsorb water).', 'why': 'The body is trying to refill blood volume by keeping every drop of fluid it can.'}
5. {'what': 'Blood pressure may stay normal (compensated shock) for minutes to hours.', 'why': 'The heart is pumping faster and vessels are squeezed tight, but this only works if blood loss is slow; it masks how much volume is actually gone.'}
6. {'what': 'If bleeding continues or is brisk, compensation fails: blood pressure drops (hypotension), the patient feels dizzy or confused, and urine output falls.', 'why': 'The heart cannot pump hard enough to fill the squeezed vessels, pressure collapses, and the brain and kidneys start to fail from lack of oxygen (decompensated shock).'}- 7. {'what': 'The crash point is sudden: once blood pressure falls below 90 systolic, the window to reverse shock narrows fast.', 'why': 'Organs begin to suffer irreversible damage (kidney injury, heart starved blood flow (ischemia), brain injury) if blood flow (perfusion) is not restored quickly with fluids, blood transfusion, and bleeding control.'}

Domino effect

1. A vessel in the colon wall (from a diverticulum, angiodysplasia, ulcer, or tumor) breaks open and leaks blood into the intestinal lumen. — The structural failure (worn artery, fragile vessel, or eroded mucosa) allows blood to escape from the circulation into the space where stool is moving.
2. Blood mixes with stool and appears as bright red, maroon, or dark red blood in the toilet (hematochezia). — If bleeding is brisk or from the right colon, blood moves through quickly and stays red; if slower or from the left colon, it may be darker maroon. Black, tarry stool (melena) usually means the blood came from higher up and sat long enough for stomach acid to turn it black.
3. Baroreceptors in the carotid arteries and aortic arch sense falling blood volume and signal the brainstem. — Even a small drop in circulating volume is detected, triggering the sympathetic nervous system to release norepinephrine.
4. Heart rate rises (tachycardia), often before blood pressure changes. — The heart beats faster to try to keep cardiac output (the amount of blood pumped per minute) steady, compensating for lower volume.

5. Blood vessels in the skin, gut, and kidneys tighten (vasoconstriction), shunting blood to the brain and heart. — The body prioritizes vital organs; this is why the skin may feel cool and pale, and why gut starved blood flow (ischemia) can worsen if bleeding continues.
6. If bleeding is slow, the patient may only feel weak, dizzy, or short of breath (from anemia, low red blood cell count), with normal or near-normal blood pressure. — The body has time to compensate by increasing heart rate and constricting vessels, so blood pressure stays up even as hemoglobin (the oxygen-carrying protein in red blood cells) drops.
7. If bleeding is brisk (diverticular bleed, large angiodysplasia, or ruptured vessel), blood pressure drops (hypotension), the patient becomes confused or loses consciousness, and urine output falls. — Compensation fails when blood loss exceeds the heart's ability to maintain pressure; organs begin to fail from lack of oxygen (shock).
8. Some causes (diverticula, angiodysplasia, hemorrhoids) produce painless bleeding, while others (ischemic colitis, infectious colitis, inflammatory bowel disease) cause crampy abdominal pain. — Diverticula and angiodysplasia are vascular problems with no nerve endings, so they do not hurt. Starved blood flow (Ischemia), infection, and inflammation damage the mucosa and trigger pain nerves in the gut wall.

Symptoms · what the patient feels, and why

- Bright red or dark red blood in the stool (hematochezia): Blood is coming from somewhere in the colon, rectum, or anus — so close to the exit that it stays red instead of turning black. Common causes are bleeding pouches in the colon wall (diverticula), swollen blood vessels (hemorrhoids or angiodysplasia), cuts in the lining (ischemic colitis or inflammatory bowel disease), or a growth (polyp or cancer).
- Racing heart (tachycardia) and low blood pressure when a lot of blood is lost quickly: When you lose a lot of blood fast, the amount of fluid in your blood vessels drops. Your heart races to push what's left around faster, and your blood pressure falls because there isn't enough volume filling the pipes. This is the body's alarm bell that you need fluids and maybe blood right away.
- Feeling dizzy, weak, or like you might faint (orthostatic symptoms): Not enough blood is reaching your brain when you stand up, because overall blood volume is low from the bleed. The brain runs on oxygen carried by blood, so when supply drops, you feel woozy or weak — especially when gravity pulls blood away from your head as you stand.
- Pale skin and inside of the eyelids look less pink (pallor): Red blood cells carry oxygen and give skin and tissue their pink color. When you lose blood — whether fast or slowly over weeks — you have fewer red cells, so skin and mucous membranes (like the inside of your eyelids) look paler than normal.

- Tiredness and shortness of breath, especially if the bleed has been slow and steady: Slow bleeding over days or weeks drains your iron stores and drops your red-cell count (anemia). Red cells carry oxygen to every tissue, so when their number falls, muscles and organs — including your heart and lungs — don't get enough fuel. You feel tired and breathless because your body is working harder to do normal tasks with less oxygen.
- Cramping or belly pain, sometimes on the left side: Some causes of lower GI bleeding — like blood-starved (ischemic) colitis (colon tissue not getting enough blood) or inflammatory bowel disease (the immune system attacking the colon lining) — irritate or damage the colon wall. That irritation triggers cramping pain. Diverticular bleeding itself usually does not hurt, but other lower-GI problems can.
- Black, tarry stool (melena) if the bleed is in the right colon and moves slowly: When blood sits in the colon long enough, stomach acid and gut bacteria break down the red hemoglobin into a black substance. A bleed high in the colon (near where the small intestine joins) can turn black by the time it reaches the toilet — even though it started in the lower GI tract.
- Blood mixed into diarrhea, or bloody mucus: Inflammation in the colon — from infection (like *E. coli* or *C. difficile*) or inflammatory bowel disease (Crohn's disease or ulcerative colitis) — damages the lining so it oozes blood and mucus. The inflamed wall also pushes stool through faster, causing diarrhea, and the blood mixes in as it goes.

Focused exam

- Bright red or maroon blood in the toilet bowl or on toilet paper: This is bright red blood in the stool (hematochezia) — blood coming from below the ligament of Treitz (the spot where the small intestine meets the colon). Bright red means the blood moved quickly through the colon and did not have time to turn dark. Maroon means it slowed down a bit. The color tells you how fast the bleeding is happening right now.
- Heart rate over 100 beats per minute: When you lose blood, your heart speeds up to try to keep oxygen moving to the brain and organs. A fast heart is the body's first alarm that blood volume is dropping. In a lower GI bleed, a fast heart rate (tachycardia) is your earliest warning that bleeding is brisk.
- Blood pressure lower than the patient's normal, or a drop of more than 20 mmHg when the patient stands up (orthostatic low blood pressure (hypotension)): If blood pressure falls or drops when standing, the body does not have enough blood left in the tank to keep pressure steady. This is the start of shock. Lower GI bleeds can cause this quickly if the bleeding is fast.

- Digital rectal exam shows fresh blood, but no hemorrhoids, fissures, or tears: You have to examine the rectum with a gloved finger to know where the blood is coming from. If you see blood but no local cause like a crack or swollen vein, the bleeding is from higher up in the colon — diverticula (small pouches in the colon wall), abnormal blood vessels, polyps, or cancer.
- Abdomen is soft and not tender, or only mildly uncomfortable: Most lower GI bleeds from diverticula or abnormal vessels do not cause pain. If the belly hurts a lot, think blood-starved (ischemic) colitis (the colon wall is not getting enough blood and is dying) or infection. Pain changes the list of possible causes.
- Patient is alert, talking normally, and skin is warm: A slow bleed drops hemoglobin (the oxygen-carrying part of blood) over days or weeks and causes tiredness and pale skin, but the patient stays awake and stable. A fast bleed causes confusion, cold skin, and shock. How sick the patient looks tells you how fast the bleeding is happening right now.

Diagnostics · every test answers a question

- Complete blood count (CBC) with hemoglobin and hematocrit → How much blood has been lost? Is the patient anemic?
- Blood urea nitrogen (BUN) and creatinine → Is the bleed coming from the upper GI tract instead of the lower colon?
- Prothrombin time (PT/INR) and activated partial thrombrombin time (aPTT) → Is the patient on blood thinners, or does the blood clot normally?
- Type and screen (or type and crossmatch if bleeding is brisk) → What is the patient's blood type, and are there antibodies that would slow a transfusion?
- Serum lactate → Is the bleeding causing shock? Are the tissues getting enough oxygen?
- CT angiography of the abdomen and pelvis (if bleeding is active and brisk) → Where exactly is the bleeding vessel, and is the bleeding fast enough to see on imaging?
- Colonoscopy (when bleeding has slowed or stopped) → What is the exact source of the bleeding in the colon, and can it be treated during the exam?
- Nasogastric lavage or upper endoscopy (if BUN-to-creatinine ratio is high or clinical picture is unclear) → Is this really a lower GI bleed, or is blood coming from the stomach or duodenum and moving down into the colon?

Treatment logic

- Intravenous fluid resuscitation with normal saline or lactated Ringer's, followed by packed red blood cell transfusion to hemoglobin goal of 7–8 g/dL (or 8–9 g/dL if the patient has heart disease) → Replaces lost blood volume so blood pressure stays up and the heart does not have to race. Packed red blood cells carry oxygen to the brain, heart, and kidneys. This stops the cascade into shock.
- Hold or reverse anticoagulants (warfarin, heparin, direct oral anticoagulants) and antiplatelet drugs (aspirin, clopidogrel) based on bleeding severity and agent type → Removes the chemical block on clotting so the body can plug the broken vessel faster. Warfarin is reversed with vitamin K and prothrombin complex concentrate; heparin with protamine; some direct oral anticoagulants with specific reversal agents (idarucizumab for dabigatran, andexanet alfa for rivaroxaban and apixaban).
- Colonoscopy with hemostatic intervention (endoscopic clip, band ligation, or thermal coagulation) once bleeding has slowed and the colon is prepared → Finds the exact bleeding spot in the colon and seals it directly by clipping the vessel shut, burning it closed, or banding it. This stops blood loss at the source.
- Interventional radiology angiographic embolization if colonoscopy fails, is not possible, or bleeding is too brisk to see with a scope → A catheter is threaded through the femoral artery (in the groin) up to the bleeding vessel in the colon. The radiologist injects tiny particles or coils to block the artery and stop blood flow to the broken spot.
- Surgery (segmental colectomy) if bleeding does not stop with endoscopy or embolization, or if the patient becomes unstable despite resuscitation → Removes the segment of colon that is bleeding. This is definitive — it stops the bleed completely by taking out the source.
- Stop nonsteroidal anti-inflammatory drugs (NSAIDs like ibuprofen or naproxen) and treat the underlying cause (antibiotics for colitis, colonoscopy surveillance for polyps, surgery for cancer) → Removes the trigger that damaged the mucosa (inner lining of the colon) or blood vessels. NSAIDs block prostaglandins (chemicals that protect the stomach and gut lining), so stopping them lets the lining heal. Treating infection or removing polyps prevents recurrent bleeding.

Medications

Packed red blood cells (PRBCs) · Blood product transfusion

These are bags of donated red blood cells that replace what was lost in the bleed. Red blood cells carry oxygen to every organ. When you lose a lot of blood, your oxygen delivery drops and

organs suffer. Giving PRBCs brings your hemoglobin (the oxygen-carrying protein inside red cells) back up so your heart, brain, and kidneys get the oxygen they need.

1. The patient's hemoglobin has dropped (usually below 7 g/dL, or below 8 g/dL if they have heart disease) because of blood loss.
2. A unit of packed red blood cells is given through an IV line.
3. The donor red cells mix with the patient's blood and start carrying oxygen immediately.
4. Hemoglobin level rises by about 1 g/dL per unit transfused.
5. Organs receive more oxygen, heart rate slows, and blood pressure stabilizes.

SAFETY WATCH

Transfusion reaction — fever, chills, back pain, or trouble breathing during or right after the transfusion; stop immediately and tell the team · Fluid overload — too much volume too fast can flood the lungs, especially in older patients or those with heart failure; watch for new shortness of breath or cough · Infection risk — blood is screened but a small risk of virus transmission remains · Destroying red blood cells (Hemolytic) reaction — rare but serious; the immune system attacks the donor cells if blood types are mismatched

Intravenous (IV) crystalloid fluids (normal saline or lactated Ringer's) · Volume expander / resuscitation fluid

These are sterile saltwater solutions given through an IV to refill the blood vessels quickly. When you bleed, you lose volume — the total amount of liquid in your pipes. Low volume means low blood pressure and poor flow to organs. Crystalloids spread through your vessels fast, prop up blood pressure, and keep organs perfused (fed with blood) while you prepare blood products or stop the bleed.

1. Blood loss drops the volume inside blood vessels, so pressure falls.
2. Crystalloid is infused rapidly through a large IV line.
3. The fluid fills the vascular space, raising blood pressure and cardiac output (how much blood the heart pumps).
4. Blood flow (Perfusion) to kidneys, brain, and heart improves immediately.
5. This buys time to get blood products ready and to locate the bleeding source.

SAFETY WATCH

Dilutional impaired blood clotting (coagulopathy) — giving liters of fluid without red cells and clotting factors dilutes the blood and makes clotting worse; use blood products early in massive bleeds · Pulmonary edema (fluid flooding the lungs) — too much fluid can flood the lungs, especially in elderly or heart-failure patients; listen for crackles and watch oxygen levels · Hyperchloremic too much acid in the blood (acidosis) — large volumes of normal saline can raise chloride and make the blood acidic; lactated Ringer's is often preferred in big resuscitations

Proton pump inhibitor (PPI) — e.g. pantoprazole IV, omeprazole oral · Proton pump inhibitor

PPIs shut down the pumps in the stomach lining that make acid. Stomach acid can prevent clots from forming on bleeding ulcers or eroded spots. By blocking acid, PPIs let the clot stay stable and the tissue heal. They are routine in upper GI bleeds (stomach, esophagus) but are also given in lower GI bleeds if there is ANY chance the bleed could be from the upper tract (about 10–15 % of 'lower' bleeds turn out to be brisk upper bleeds that reach the colon).

1. The proton pump (H^+/K^+ -ATPase) in parietal cells normally pushes hydrogen ions into the stomach, making acid.
2. PPI binds to and permanently blocks that pump.
3. Acid production drops by more than 90 %.
4. Higher stomach pH (less acidic) protects any forming clot and reduces bleeding from gastric or duodenal erosions.
5. New pumps take a day or two to build, so acid stays low for 24–72 hours per dose.

SAFETY WATCH

C. difficile infection — long-term PPI use raises the risk of this serious diarrhea infection by changing gut bacteria; use the shortest course needed · Bone fracture risk — chronic use (months to years) is linked to slightly higher hip and spine fractures, possibly from lower calcium absorption · Low magnesium (Hypomagnesemia) — low magnesium after months of use; causes muscle cramps, irregular heartbeat · Rebound acid — stopping suddenly after weeks of use can cause a temporary surge in acid production

Reversal agents for anticoagulants — e.g. vitamin K (for warfarin), idarucizumab (for dabigatran), andexanet alfa (for apixaban/rivaroxaban), protamine (for heparin) · Anticoagulant reversal agent

Many patients with lower GI bleeds are on blood thinners for atrial fibrillation (an irregular, quivering heartbeat) or clot prevention. These drugs block clotting on purpose, but during

active bleeding that becomes dangerous. Reversal agents restore the body's ability to clot by either supplying the missing clotting factor (vitamin K) or directly neutralizing the blood thinner (idarucizumab, andexanet, protamine). The choice depends on which blood thinner the patient is taking.

1. Patient is on an anticoagulant that blocks part of the clotting cascade or thrombin.
2. Active bleeding occurs; clotting tests (PT/INR for warfarin, aPTT for heparin, or drug-specific levels) are prolonged.
3. Reversal agent is given: vitamin K IV/oral for warfarin (takes 6–24 hours), idarucizumab IV for dabigatran (works in minutes), andexanet IV for factor Xa inhibitors like apixaban or rivaroxaban (works in minutes), or protamine IV for heparin (works in minutes).
4. The anticoagulant effect is neutralized or reduced.
5. Clotting ability returns, helping the body seal the bleeding site.

SAFETY WATCH

Clot formation (Thrombosis) risk — restoring clotting ability can trigger a stroke, heart attack, or deep vein clot, especially in patients with high clot risk (mechanical heart valve, recent stent, atrial fibrillation (an irregular, quivering heartbeat)); reversal is reserved for serious bleeds · Anaphylaxis — rare with idarucizumab and andexanet but possible; watch for rash, throat swelling, drop in blood pressure · Rebound anticoagulation — andexanet's effect wears off in hours; the original drug may resume action, so monitor closely · Protamine reactions — flushing, low blood pressure, a slow heart rate (bradycardia) (slow heart rate); give slowly

Epinephrine (adrenaline) injection during colonoscopy · Vasoconstrictor / hemostatic agent

Epinephrine is the body's fight-or-flight hormone, but when injected directly into bleeding tissue through a colonoscope, it squeezes the tiny blood vessels shut. This stops or slows the bleeding long enough for the doctor to place a clip, band, or cautery (heat burn) to seal the vessel permanently. It is used for active bleeding from diverticula, angiodysplasia, or post-polypectomy sites.

1. During colonoscopy, the doctor sees active bleeding from a diverticulum or vascular malformation.
2. Dilute epinephrine (1:10,000 or 1:20,000) is injected through the scope directly into the tissue around the bleeder.
3. Epinephrine binds to alpha receptors on smooth muscle cells in vessel walls.
4. Vessels constrict (squeeze tight), reducing blood flow to near zero.

5. Bleeding stops or slows, allowing placement of clips or thermal therapy to achieve permanent hemostasis.

SAFETY WATCH

Systemic absorption — even local injection can raise heart rate and blood pressure briefly; use caution in patients with severe coronary disease or uncontrolled high blood pressure (hypertension) · Arrhythmia — rare, but epinephrine can trigger irregular heartbeats, especially if the patient is on certain anesthetics · Rebleeding — relying on epinephrine alone (without clips or cautery) leads to rebleeding in many cases once the drug wears off

Red flags

- Blood pressure under 100 systolic, heart rate over 100, or feeling faint when you stand — signs you have lost a dangerous amount of blood and need emergency fluids or transfusion
- Steady, heavy bleeding that does not slow down — this can empty your blood volume fast and needs urgent colonoscopy or angiography (dye X-ray of blood vessels) to find and stop the source
- New confusion, chest pain, or very pale, cold, clammy skin — your brain and heart are not getting enough oxygen because blood volume is too low; this is shock and requires immediate resuscitation
- Blood in the stool plus a recent colonoscopy or colon surgery — you may have a tear or bleeding vessel at the procedure site that needs urgent follow-up

Nursing priorities

1. Establish large-bore intravenous access with at least one 18-gauge or larger IV catheter and start isotonic crystalloid fluid bolus. — Large IV catheters allow rapid infusion of fluids and blood products to restore circulating blood volume and prevent shock (dangerously low blood pressure) from blood loss.
2. Obtain orthostatic vital signs (blood pressure and heart rate lying flat and then standing) and monitor continuously if patient shows a fast heart rate (tachycardia) or low blood pressure (hypotension). — A drop in blood pressure or rise in heart rate when standing (orthostatic changes) measures the degree of blood volume loss and helps decide if the patient needs urgent transfusion.
3. Send blood samples immediately for type and crossmatch, complete blood count, coagulation panel (PT, PTT, INR), and basic metabolic panel including blood urea nitrogen. — Type and crossmatch prepares blood for transfusion; hemoglobin (blood count) measures anemia severity; coagulation tests guide reversal of blood thinners; elevated blood urea nitrogen suggests upper GI source instead.

4. Keep the patient NPO (nothing by mouth) in preparation for possible urgent colonoscopy or angiography. — An empty stomach reduces aspiration (breathing in stomach contents) risk during sedation for procedures and allows the team to do urgent endoscopy or imaging without delay.
5. Perform a digital rectal exam and inspect the stool color and consistency. — Direct visualization confirms bleeding location; bright red blood suggests lower colon or rectal source; maroon blood may be from right colon; black tarry stool means upper GI bleed requiring different workup.
6. Hold anticoagulant and antiplatelet medications and prepare reversal agents based on pharmacy and provider orders. — Continuing blood thinners worsens active bleeding; reversal agents like vitamin K for warfarin or prothrombin complex concentrate (PCC) for direct oral anticoagulants restore clotting ability faster.
7. Transfuse packed red blood cells to maintain hemoglobin at 7 to 8 grams per deciliter unless the patient has active chest pain or severe heart disease. — A restrictive transfusion threshold (hemoglobin 7 to 8) improves survival compared to higher targets because excess transfusion increases rebleeding risk and fluid overload in most patients.
8. Document the volume and frequency of bloody stools and monitor for signs of ongoing bleeding such as worsening a fast heart rate (tachycardia) or new dizziness. — Tracking stool output helps the care team identify persistent or rebleeding that may require escalation from colonoscopy to CT angiography (special imaging) or interventional radiology embolization (blocking the bleeding vessel).

Sources

- ACG Clinical Guideline: Management of Patients with Acute Lower Gastrointestinal Bleeding (2016)
- American Society for Gastrointestinal Endoscopy (ASGE) guideline on lower GI bleeding
- American College of Gastroenterology (ACG)
- UpToDate / NEJM clinical reviews

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