

Small Intestinal Bacterial Overgrowth

Breath testing indications, antibiotic treatment, and clinical pearls for SIBO and intestinal methanogen overgrowth.

GRADE Conditional Rec Key Concept

1 Diagnosis — Who to Breath Test

- 2

Breath testing (**glucose hydrogen or lactulose hydrogen**) in patients with **IBS** to diagnose SIBO.
- 2

Breath testing in symptomatic patients with **suspected motility disorders**.
- 2

Breath testing in symptomatic patients (pain, gas, bloating, diarrhea) with **previous luminal abdominal surgery**.
- 2

Against breath testing in **asymptomatic patients on PPIs**.
- 2

Methane testing (glucose/lactulose) to diagnose intestinal methanogen overgrowth (IMO) in symptomatic patients with **constipation**.

2 Treatment — Antibiotic Regimens

- 2

Antibiotics in symptomatic SIBO patients to eradicate overgrowth and resolve symptoms.

ANTIBIOTIC	DOSE	EFFICACY
Rifaximin (nonabsorbable)	550 mg TID	61%–78%
Amoxicillin-clavulanate	875 mg BID	~50%
Ciprofloxacin	500 mg BID	43%–100%
Metronidazole	250 mg TID	43%–87%
Neomycin	500 mg BID	33%–55%
Norfloxacin	400 mg daily	30%–100%
Tetracycline	250 mg QID	~87.5%
Trimethoprim-sulfamethoxazole	160/800 mg BID	~95%

3 Key Clinical Concepts

CONCEPT	TYPE
The most common symptom of SIBO is bloating	Key Concept
Vitamin deficiencies are uncommon and usually reflect iatrogenic/structural bowel abnormality (e.g., blind loop); folate may be elevated (bacteria produce it)	Key Concept
A duodenal culture colony count ≥10³ CFU/mL is most suggestive of SIBO	Key Concept
Excess breath methane reflects archaea, not bacteria — "IMO" is the more accurate term; <i>Methanobrevibacter smithii</i> is the key organism	Key Concept
Constipation is associated with elevated breath methane/stool <i>M. smithii</i> ; targeting methanogens may improve constipation	Key Concept
A subset of IBS patients have SIBO on breath testing and/or culture	Key Concept
No consistent data support specific probiotics , and no basis currently exists for fecal microbiota transplant , in SIBO treatment	Key Concept
Preventing recurrence requires treating the underlying cause — this is the primary mode of prevention	Key Concept
After treatment, retesting an abnormal breath test may correlate with symptom improvement	Key Concept