

Practice Guidelines

Infectious Diarrhea: IDSA Updates Guidelines for Diagnosis and Management

Key Points for Practice

- Diagnostic testing is not routinely recommended in patients with uncomplicated traveler's diarrhea.
- If diarrhea is accompanied by fever, bloody stools, abdominal cramping, or signs of sepsis, stool should be tested for *Salmonella*, *Shigella*, *Campylobacter*, *Yersinia*, *Clostridium difficile*, and STEC.
- Clinicians should evaluate patients with diarrhea for post-infectious and extraintestinal manifestations associated with enteric infections.

From the AFP Editors

There are many possible sources of infectious diarrhea, including consumption of shellfish, raw milk, unpasteurized juice, undercooked meats, fish, or eggs, or contaminated fruits or vegetables; exposure to contaminated drinking or recreational water; exposure in health care and child care settings; international travel; contact with infected animals or feces; and recent antimicrobial therapy. Pathogens can also be spread through anal or oral contact. Infectious diarrhea is usually self-limited, but diagnostic testing and treatment are indicated in some cases.

The Infectious Diseases Society of America (IDSA) has updated its 2001 guidelines for the management of children and adults with suspected or confirmed infectious diarrhea. The main points are highlighted here. Other topics can be found in the original guideline.

Recommendations

CLINICAL, DEMOGRAPHIC, AND EPIDEMIOLOGIC FEATURES

A detailed history should be obtained from any patient with diarrhea. Diarrhea caused by foodborne and waterborne illness is especially important to identify to help prevent outbreaks. Local reporting recommendations should be followed if a patient with diarrhea works in a child care center,

long-term care facility, health care center, food service, or recreational water venues (e.g., pools, lakes).

Patients with fever or bloody diarrhea should be evaluated for enteropathogens for which antimicrobial agents may be beneficial, including *Salmonella enterica*, *Shigella*, and *Campylobacter*. Identifying these bacteria can avoid unnecessary antibiotic therapy and procedures such as colonoscopy, abdominal surgery, or ulcerative colitis treatment. Additionally, stool tests that are negative for infectious pathogens increase suspicion for a noninfectious cause (e.g., inflammatory bowel disease).

Enteric fever should be considered in those with fever, with or without diarrhea, and a relevant history (e.g., recent travel to an endemic area, consumption of foods prepared by a recent traveler to an endemic area, or laboratory exposure to *Salmonella typhi* or *Salmonella paratyphi*). Enteric fever is rarely associated with diarrhea.

All patients with diarrhea should be assessed for dehydration. Dehydration increases the risk of serious illness, especially in very young and very old patients.

Early detection of Shiga toxin-producing *Escherichia coli* (STEC) infection, especially virulent strains, is important to reduce complications and transmission. If the clinical or epidemic history suggests a Shiga toxin-producing organism, diagnostic testing should be initiated to identify a Shiga toxin, distinguish STEC O157:H7 from other STEC infections, and, if possible, distinguish Shiga toxin 1 from Shiga toxin 2, which is usually more potent. *Shigella dysenteriae* type 1, and other Shiga toxin-producing infections in rare cases, should be considered as a cause of hemolytic uremic syndrome, especially in those with relevant international travel or personal contacts. Culture for STEC O157 and testing for Shiga toxins (and genes that encode them) should both be performed. STEC O157 is the most consistently virulent STEC infection in the United States. Shiga toxin 2 is associated with increased risk of bloody diarrhea and hemolytic uremic syndrome.

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This series is coordinated by Sumi Sexton, MD, Editor-in-Chief.

A collection of Practice Guidelines published in AFP is available at <https://www.aafp.org/afp/practguide>.

CME This clinical content conforms to AAFP criteria for continuing medical education (CME). See CME Quiz on page 634.

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Clinicians should evaluate patients with diarrhea for post-infectious and extraintestinal manifestations associated with enteric infections such as reactive arthritis, erythema nodosum, or glomerulonephritis. Specific manifestations may be associated with specific pathogens. When a clinical syndrome consistent with a known postinfectious manifestation is identified, an exposure history should be obtained with a diagnostic evaluation and directed management.

DIAGNOSIS

Diarrheal illnesses are usually self-limited and determining the exact etiology is not always necessary. Stool testing is indicated in patients at high risk of severe illness and when identification of a pathogen is important for the patient or public health.

In patients with diarrhea accompanied by fever, bloody or mucoid stools, severe abdominal cramping or tenderness, or signs of sepsis, stool should be tested for *Salmonella*, *Shigella*, *Campylobacter*, *Yersinia*, *Clostridium difficile*, and STEC. Blood cultures should be performed in infants younger than three months and in patients with signs of septicemia or suspected enteric fever, patients with certain high-risk conditions (e.g., hemolytic anemia), and patients who have traveled to endemic areas or had contact with travelers from endemic areas who have a fever of unknown etiology.

A broad differential diagnosis should be considered in patients with diarrhea who are immunocompromised, especially those with moderate or severe primary or secondary immune deficiencies, and bacterial cultures and viral and parasitic testing should be performed. Patients with AIDS require testing for additional organisms, including *Cryptosporidium*, *Cyclospora*, *Cystoisospora*, microsporidia, *Mycobacterium avium* complex, and cytomegalovirus.

Diagnostic testing is not routinely recommended in patients with uncomplicated traveler's diarrhea unless treatment is needed. However, those with diarrhea lasting 14 days or more should be tested for intestinal parasitic infection, and those who were treated with an antimicrobial within the preceding eight to 12 weeks should be tested for *C. difficile* infection. Gastrointestinal tract disease, such as inflammatory bowel disease and postinfectious irritable bowel syndrome, should be considered.

Testing may be considered for *C. difficile* infection in patients older than two years who have a history of diarrhea following antimicrobial use and in those with health-care-associated diarrhea. One stool specimen is suggested for testing because multiple specimens do not increase diagnostic yield. *C. difficile* should also be considered in patients with diarrhea occurring in hospitals. Colonization is common in hospitalized patients and residents of long-term care facilities, although patients without diarrhea should not be tested or treated.

EMPIRIC MANAGEMENT OF INFECTIOUS BLOODY DIARRHEA

Choice of empiric therapy for bloody diarrhea depends on local susceptibility patterns and the patient's travel history. Options for adults include a fluoroquinolone (e.g., ciprofloxacin) or azithromycin (Zithromax). Options for children include a third-generation cephalosporin for infants younger than three months and for those with neurologic involvement, or azithromycin. However, most cases of inflammatory infectious diarrhea episodes are self-limited, and the risks of treatment often outweigh the benefits. Exceptions may include severe infections and infections in immunocompromised persons.

Patients with clinical features of sepsis and suspected enteric fever should be treated empirically with broad-spectrum antimicrobials after blood, stool, and urine culture collection. Therapy can be narrowed once test results are available. If an isolate is unavailable and enteric fever is suspected, the antimicrobial choice may be tailored to susceptibility patterns in the geographic location where the infection was acquired.

Antimicrobial therapy should be avoided in patients infected with STEC O157, Shiga toxin 2, or STEC of unknown genotype. There is insufficient evidence to make a recommendation for patients with other STEC infections.

Empiric antibacterial therapy should be considered for patients who are immunocompromised and have bloody diarrhea or severe illness. However, empiric treatment of bloody diarrhea is not recommended in immunocompetent patients while waiting for test results unless (1) the patient is an infant younger than three months and a bacterial etiology is suspected, (2) the patient has a fever documented in a health care setting, abdominal pain, and bacillary dysentery presumably caused by *Shigella* infection, or (3) the patient has recently traveled internationally and has a body temperature of at least 101.3°F (38.5°C) or has signs of sepsis.

Asymptomatic contacts of patients with bloody diarrhea should not be treated. However, they should be advised on proper infection prevention and control measures.

Guideline source: Infectious Diseases Society of America

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Recommendations based on patient-oriented outcomes? Yes

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