

Public Health Update

A Bi-monthly Newsletter on Current
Public Health Topics



Tri-County Health Department

Serving Adams, Arapahoe and Douglas Counties

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Public Health Update

July 2002

DIAGNOSIS AND MANAGEMENT OF FOODBORNE ILLNESSES

The Centers for Disease Control and Prevention estimates that each year 76 million people get sick, more than 300,000 are hospitalized, and 5,000 Americans die as a result of foodborne illnesses. Many bacteria, viruses, parasites, and chemicals are associated with foodborne illnesses.

Foodborne illnesses that were reported to Tri-County Health Department (TCHD) in 2001 include, campylobacteriosis (154 cases), *E.coli* O157:H7 (11 cases), giardiasis (119 cases), hepatitis A (20 cases), salmonellosis (161 cases), and shigellosis (11 cases). The incidence of foodborne illnesses in the TCHD region normally increases during the summer months as people engage in more outdoor activities.

RECOGNIZING FOODBORNE ILLNESSES

Physicians have a critical role in recognizing suspicious symptoms, disease clusters, and etiologic agents, as well as, preventing and controlling food-related disease outbreaks. Patients with a foodborne illness typically present with gastrointestinal tract symptoms, such as vomiting, diarrhea, and abdominal pain; however, nonspecific symptoms and neurologic symptoms such as blurred vision, dizziness, numbness, or tingling may also occur. Important clues to determining the etiology of a foodborne disease are the (1) incubation period; (2) duration of illness; (3) predominant clinical symptoms; and (4) population involved.

Additional clues include whether the patient has consumed raw or poorly cooked foods, unpasteurized milk or juices, home canned goods, fresh produce, or soft cheeses made from unpasteurized milk. For patients presenting with neurological symptoms, possible food-related causes include recent ingestion of contaminated seafood, mushroom poisoning, and chemical poisoning. Other important inquiries include whether the patient has (1) had family or close friends with similar symptoms (2) had animal contact (pet or farm), (3) attended day care, (4) traveled, (5) consumed untreated water, or (6) attended group picnics or similar outings.

DIAGNOSING FOODBORNE ILLNESSES

Differential Diagnosis

A differential diagnosis of gastrointestinal tract disease should include underlying medical conditions such as irritable bowel syndrome; inflammatory bowel diseases such as Crohn's disease or ulcerative colitis; malignancy; medication use (including antibiotic-related *Clostridium difficile* toxin colitis); gastrointestinal tract surgery or radiation; malabsorption syndromes; immune deficiencies; Brainerd diarrhea; and numerous other structural, functional, and metabolic etiologies.



Clinical Microbiology Testing

Stool cultures are indicated when:

- the patient is immunocompromised;
- the patient is febrile;
- the patient has bloody diarrhea;
- the patient suffers chronic or persistent diarrhea;
- the patient has severe abdominal pain;
- many fecal leukocytes are present, which indicates diffuse colonic inflammation and is suggestive of invasive bacterial pathogens such as *Shigella*, *Salmonella*, and *Campylobacter* species, and invasive *E. coli*.
- the patient is unresponsive to appropriate antimicrobial therapy, which may indicate an infection with a parasitic organism; or
- the patient has suggestive travel histories;

Clinical microbiology laboratories may differ in protocols used for the detection of pathogens. When submitting specimens for microbiologic testing, contact your microbiology laboratory for more information on specimen collection and testing procedures.

TREATING FOODBORNE ILLNESSES

Many episodes of acute gastroenteritis are self-limiting and require fluid replacement and supportive care. Choice of antimicrobial therapy should be based on:

- Clinical signs and symptoms;
- Organism detected in clinical specimens;
- Antimicrobial susceptibility tests; and
- Appropriateness of treating with an antibiotic (some enteric bacterial infections are best not treated).

SURVEILLANCE AND REPORTING OF FOODBORNE ILLNESSES

Physicians should report confirmed or potential foodborne illnesses to local or state health departments. Reporting to the health department provides more accurate assessments of the burden of foodborne illness in the community and can help the public health officer to identify a foodborne disease outbreak in the community, which may lead to early identification and removal of contaminated products from the commercial market.

In addition to reporting cases of potential foodborne illnesses, it is important for physicians to report noticeable increases in unusual illnesses, symptom complexes, or disease patterns (even without definitive diagnosis) to public health authorities. Prompt reporting of unusual patterns of diarrheal/gastrointestinal tract illness, for example, can allow public health officials to initiate an epidemiologic investigation earlier than would be possible if the report awaited definitive etiologic diagnosis. To make a report, please contact Tri-County Health Department at (303) 220-9200 or fax to (303) 220-9208.

Information for this issue of the Public Health Update was taken from Centers for Disease Control and Prevention. Diagnosis and Management of Foodborne Illnesses: A Primer for Physicians. MMWR 2001;50(No. RR-2). Available at <http://www.cdc.gov/mmwr/PDF/RR/RR5002.pdf>

Common Foodborne Illnesses

Etiology	Incubation Period	Signs and Symptoms	Duration of Illness	Laboratory Testing	Treatment
Bacterial					
<i>Campylobacter jejuni</i>	1-10 days (usually 2-5 days)	Diarrhea (may be bloody), fever, cramps, vomiting.	2-10 days	Stool culture	Supportive care. For severe cases, erythromycin and quinolones may be indicated early in the diarrheal disease.
<i>E.coli</i> O157:H7	1-8 days (usually 3-4 days)	Severe diarrhea (often bloody), abdominal pain, and vomiting; Usually little or no fever is present	5-10 days	Stool culture	Supportive care. Monitor renal function, hemoglobin, and platelets closely. Studies indicate antibiotics may be harmful. Also associated with hemolytic uremic syndrome.
<i>Salmonella</i> spp.	1-3 days	Diarrhea, fever, cramps, vomiting.	4-7 days	Stool culture	Supportive care. Except for <i>S. typhi</i> , antibiotics are not indicated unless extra-intestinal spread of the infection. Consider ampicillin, gentamicin, TMP-SMX, or quinolones.
<i>Shigella</i> spp.	24-48 hrs	Diarrhea (may be bloody/mucus) cramps, fever	4-7 days	Stool culture	Supportive care. TMP-SMX if organism is susceptible; nalidixic acid or other quinolones may be indicated if organism is resistant.
Parasitic					
<i>Cryptosporidium parvum</i>	2-14 days (usually 7 days)	Abdominal pain, cramps, watery diarrhea; fever and vomiting may be present and may be relapsing.	Days to weeks	Identification of oocysts in stool	Supportive care, self-limited. If severe, consider paromomycin.
<i>Cyclospora cayetanensis</i>	1-11 days (usually 7 days)	Profuse, watery diarrhea, fatigue, often relapsing.	Weeks to months	Identification of oocysts in stool	TMP-SMX for 7 days.
<i>Giardia lamblia</i>	1-4 weeks (usually 7-10 days)	Acute or chronic diarrhea, bloating and flatulence.	Weeks	Identification of trophozoites or cysts in stool – at least 3 samples.	Metronidazole and iodoquinol.
Viral					
Hepatitis A	15-50 days (usually 28 days)	Diarrhea, dark urine, pale stools, jaundice, and flu-like symptoms.	Variable (2 weeks to 3 months)	Positive HAV IgM Increased ALT, bilirubin.	Supportive Care. Immune globulin given to exposed contacts.
Norwalk-like viruses	24-48 hrs	Watery, large volume diarrhea, nausea, vomiting; fever rare	24-60 hrs	Negative bacterial cultures; stool negative for WBCs; viral assays of stool; acute & convalescent sera.	Supportive care. Bismuth sulfate.

Tri-County Health Department Selected Diseases by Date of Report Adams, Arapahoe, and Douglas Counties 2002 Year-to-date Through June

