Antibiotic administration is frequently associated with diarrhea because antibiotics alter the normal intestinal flora, resulting in an overgrowth of other bacteria. *Clostridium difficile* is the most common bacterial overgrowth and accounts for approximately 20% of all antibiotic-associated diarrhea (Barakat, El-Kady, Mostafa, et al, 2011). Antibiotic-associated diarrhea can also be caused by *Klebsiella oxytoca, Clostridium perfringens,* and *Staphylococcus aureus* pathogens (Barakat, El-Kady, Mostafa, et al, 2011).

Pathophysiology

Invasion of the GI tract by pathogens results in increased intestinal secretion as a result of enterotoxins, cytotoxic mediators, or decreased intestinal absorption secondary to intestinal damage or inflammation. Enteric pathogens attach to the mucosal cells and form a cuplike pedestal on which the bacteria rest. The pathogenesis of the diarrhea depends on whether the organism remains attached to the cell surface, resulting in a secretory toxin (noninvasive, toxin-producing, noninflammatory type diarrhea), or penetrates the mucosa (systemic diarrhea). Noninflammatory diarrhea is the most common diarrheal illness, resulting from the action of enterotoxin that is released after attachment to the mucosa. The most serious and immediate physiologic disturbances associated with severe diarrheal disease are dehydration, acid-base imbalance with acidosis, and shock that occurs when dehydration progresses to the point that circulatory status is seriously impaired.

Diagnostic Evaluation

Evaluation of the child with acute gastroenteritis begins with a careful history that seeks to discover the possible cause of diarrhea, to assess the severity of symptoms and the risk of complications, and to elicit information about current symptoms indicating other treatable illnesses that could be causing the diarrhea. The history should include questions about recent travel, exposure to untreated drinking or washing water sources, contact with animals or birds, daycare center attendance, recent treatment with antibiotics, or recent diet changes. History questions should also explore the presence of other symptoms, such as fever and vomiting, frequency and character of stools (e.g., watery, bloody), urinary output, dietary habits, and recent food intake.