

## Bacillus Cereus Disease

Bacillus cereus is a bacteria known for causing food poisoning, typically with reheated rice and pastas. It forms toxins and enterotoxins, which can lead to emetic and diarrheal types of diseases, respectively. Emetic type is seen with reheated rice, and displays nausea and vomiting shortly after ingestion. Diarrheal type causes watery, non-bloody diarrhea within 8-16 hours after ingestion.



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### Signs and Symptoms

#### Emetic Form

##### Medic

The emetic form of this disease occurs 1-6 hours after ingestion of toxins. It can also occur as quickly as within half an hour after ingestion of contaminated food. Cereulide, the toxin formed by some strains of bacillus cereus is heat stable and can survive brief heating such as stir frying. It is also resistant to gastric conditions.

#### Short Incubation (1-6 Hours)

##### Short Incubator with (1) Wand to (6) Sax

The emetic form of this disease, caused by the toxin cereulide, has a short incubation period. Symptoms, such as abdominal cramps, nausea, and vomiting, can occur within 1-6 hours of toxin ingestion. Diarrhea also occurs in about one-third of individuals. The infective dose of cereulide required to cause symptoms is 8 to 10 micrograms per kilogram of body weight

#### Nausea and Vomiting

##### Vomiting

Symptoms of this form of Bacillus cereus food poisoning include nausea and vomiting shortly after toxin ingestion.

#### Diarrheal Form

##### Toilet

The diarrheal form of B. cereus food poisoning comes from a wide range of food, occurs 8-16 hours after ingestion of toxins, and is associated with diarrhea and GI pain. Symptoms occur from ingestion of enterotoxins, and this disease may be difficult to differentiate from C. perfringens food poisoning. The diagnosis is established by testing food or stool for C. perfringens toxin. Acute diarrheal illness due to both C. perfringens and B. cereus typically resolves within 24 hours

#### Long Incubation (8-16 Hours)

##### Long Incubator with (8) Ball to Sweet (16)

This form of disease has a longer incubation period, with symptoms occurring 8-16 hours after ingestion of the enterotoxins.

## Diarrhea and GI Pain

### Toilet and GI with Pain-bolts

Patients with this form of *B. cereus* food-borne illness complain of watery diarrhea, abdominal cramps and gastrointestinal pain, which may last for up to 24 hours.